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The Commonwealth of Massachusetts.

INDUSTRIAL ACCIDENT BOARD.

THIRD ANNUAL REPORT

OF THE

INDUSTRIAL ACCIDENT BOARD,

INCLUDING

STATISTICAL INFORMATION AND TABLES ON THE EXPERIENCE FOR THE YEAR, A COMPARISON OF THE FREQUENCY AND NATURE OF INJURIES FOR THREE YEARS, A GENERAL CONSIDERATION OF ACCIDENT PREVENTION AND THE RESTORATION OF WORKING CAPACITY, AND MISCELLANEOUS INFORMATION IMPORTANT TO THE ADMINISTRATION OF THE ACT.

JULY 1, 1914, TO JUNE 30, 1915, INCLUSIVE.



BOSTON:

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The Commonwealth of Massachusetts.

INDUSTRIAL ACCIDENT BOARD, NEW ALBION BUILDING,
1 BEACON STREET, BOSTON, JAN. 21, 1916.

To the Honorable Senate and House of Representatives.

The Industrial Accident Board has the honor to transmit
herewith its third annual report.

Respectfully,

INDUSTRIAL ACCIDENT BOARD,

FRANK J. DONAHUE, *Chairman.*

DUDLEY M. HOLMAN.

DAVID T. DICKINSON.

JOSEPH A. PARKS.

THOMAS F. BOYLE.

ROBERT E. GRANDFIELD, *Secretary.*

The Commonwealth of Massachusetts.

INDUSTRIAL ACCIDENT BOARD.

THIRD ANNUAL REPORT

OF THE

INDUSTRIAL ACCIDENT BOARD.

INTRODUCTION.

In this, the third annual report of operations under the Compensation Act, the Industrial Accident Board of Massachusetts presents the results of the experience for the year July 1, 1914, to June 30, 1915. This includes statistics of accident frequency and analysis thereof; individual studies of various problems which arise under the act; a résumé of the more important cases which have come up before committees of arbitration, before the Board on review, and before the Supreme Judicial Court; recommendations made to the Legislature for amending the law; discussion of the Board's views on questions which arise under the act; safety work of different kinds; and other miscellaneous matters which are considered of interest and value to the public in general, as well as to those more intimately concerned with the working of the Compensation Act.

The number of injured employees insured under the Compensation Act has been increasing since the law first went into effect on July 1, 1912, so that at the period covered by this report about 91 per cent. of injured employees come within the scope of its benefits as compared with 81 per cent. for the first year's operations. This increasing acceptance of the act, as measured by the number insured in the different years, is evidence that the value and advantages of this law as compared with the employers liability system are becoming more and more recognized.

In the following pages the results of the administrative year are given as stated above. The facts shown are considered to be in line with progress, but the principal value from the Board's point of view lies in the possibility of utilizing the experience for making more efficient the administration of the act and its numerous problems as existent at the present time, but more especially in viewing the future course to be taken in making the act as valuable as possible in its application to the community. Each year gives rise to new problems and requires constant and increasing effort in constructive administration. In this work the Board can be greatly assisted by receiving the co-operation of persons and agencies interested in the development of the law. To assist in this work the third annual report is offered as one of the stepping stones by means of which the Compensation Act in Massachusetts, as representing part of the country-wide movement in this field of remedial social legislation, may be fostered and kept constantly working in the direction intended by the principles on which the movement is founded, namely, the preservation and conservation of human energy.

THE THIRD YEAR OF THE ACT.

In accordance with the practice followed in the first and second annual reports, this chapter shows briefly the magnitude and results of industrial accidents which occurred in the third year under the Workmen's Compensation Act. The information which follows is based on experience for the period July 1, 1914, to June 30, 1915.

In this year there occurred a total of 94,967 fatal and non-fatal injuries. Of this number, 94,597, or 99.6 per cent. were non-fatal in result, and 370, or .4 per cent., were fatal.

In connection with fatal accidents, 289, or 78.1 per cent., were insured under the act, and 81, or 21.9 per cent., were not insured.

In the 370 fatal cases there were 69 in which there was no dependency; in 59 cases there were 94 persons partially dependent; and in 242 cases there were 637 persons totally dependent.

The conjugal condition of those fatally injured was as follows: there were 117 who were single; 21 were widowers; 3 were divorced; and 229 were married.

Of the 94,597 non-fatal accidents, 86,359, or 91.3 per cent., were insured under the act.

The distribution of total disability in these cases was as follows: in 42,478 cases there was either no disability or disability extended for less than one day. This number is 44.9 per cent. of the total number of non-fatal accidents.

In 10,084, or 10.7 per cent., of the cases total incapacity extended from one to three days.

In 11,675 cases, or 12.3 per cent., incapacity extended four to seven days.

In 4,287 cases, or 4.5 per cent., incapacity extended eight to ten days.

In 5,131 cases, or 5.4 per cent., incapacity extended eleven to fourteen days.

In 8,564 cases, or 9.1 per cent., incapacity extended fifteen to twenty-eight days.

In 6,979 cases, or 7.4 per cent., incapacity extended four to eight weeks.

In 2,687 cases, or 2.8 per cent., incapacity extended eight to thirteen weeks.

In 1,682 cases, or 1.8 per cent., incapacity extended thirteen weeks to six months.

In 609 cases, or .6 per cent., incapacity extended from six months to fifty-one weeks.

In 421 cases, or 9.5 per cent., incapacity extended for one year or more.

In the period under consideration the total number of days lost on account of total disability in non-fatal cases was 1,276,099, or 182,300 weeks.

Based on the preceding figures, the number of persons constantly disabled for a full year because of total disability was 4,253.

The average duration of total disability per reported non-fatal case was 13.48 days. The average duration per case in which the disability lasted beyond the day on which the injury occurred was 24.48 days.

The amount of wages lost on account of total disability was \$2,663,438. Of this loss approximately \$2,431,719 was incurred by persons insured under the act; and \$231,719 was lost by persons not insured under the act.

According to the returns made by insurance companies to the Board the amount of benefits paid and estimated to be paid on account of injuries which occurred in the year ending June 30, 1915, amounted in all to \$2,838,449.

This figure represents an average cost per accident reported to the Board of \$29.88. In arriving at this average, however, there are included cases in which the injury was not sufficiently serious to necessitate the payment of benefits, and also cases in which the employees were not insured under the act. Taking the figures of the insurance companies, which show the number of cases in which there were paid benefits on account of disability, specified injuries, death and medical attention, the average cost per benefit case was \$43.54.

STATISTICAL DIGEST.

The year ending June 30, 1915, completed the third year under the Compensation Act in Massachusetts. The accident experience for this period is shown in detail in the Appendix of the report. For the purpose of making this information more readily available in a general way, however, it seems advisable as in previous years to analyze these figures. In the chapter which follows this one is given a comparison of the figures which show the accident experience for the first three years. Although this, in a way, will duplicate the figures considered in this chapter for the third year of the act, nevertheless there is some advantage in treating the matter as outlined.

TOTAL NUMBER OF ACCIDENTS.

The following table gives the total number of reported accidents which have been tabulated, divided into fatal and non-fatal accidents. Under these groups is made a further division to show the number under the act. These figures include all injuries reported, even those of a trivial nature, providing the injuries "arose out of and in the course of employment."

Accident Magnitude and Insurance.

ACCIDENTS.	Total.	Insured.	Not Insured.	Stood on Common Law.
Non-fatal,	94,597	86,359	8,238	57
Fatal,	370	239	81	14
Total,	94,967	86,648	8,319	71

Based on the total number of reported accidents there were 91.2 per cent. insured under the act. In fatal cases taken independently as a basis the relative number of cases insured under the act was much smaller, — 78.1 per cent.

In connection with the figures which show the number of cases where the employee elected his common-law rights a word of explanation is advisable. These figures include not only those cases in which the employee elected to stand under the provisions of the general laws outside the Compensation

Act, but also cases in which the injury was occasioned by a third party, and in which the employee exercised his privilege of recovering from such source instead of taking compensation. The fourteen fatal cases shown under this heading were all third-party actions, and in none of these had the employee notified his employer that he did not wish to come under the provisions of the act. From either point of view the number is relatively small, and it is safe to assert that practically all employees insured under the act prefer to accept the provisions of the Compensation Law.

INDUSTRIES.

Under this section are shown two groups of injuries, — fatal and non-fatal by the industries in which the accidents occurred. Only the main headings for the groups are given in this summary.

Number of reported Non-fatal Accidents by Industries.

INDUSTRY.	Number of Cases.
Iron and steel,	15,925
Textiles,	14,006
Road, street and bridge transportation,	12,796
Trade,	10,291
Building trades,	8,444
Leather and its finished products,	5,942
Lumber and its remanufacture,	2,969
Food and kindred products,	2,767
Paper,	2,255
Domestic and personal service,	1,903
Metals and metal products,	1,485
Water transportation,	1,154
Printing and bookbinding,	841
Chemical and allied products,	823
Express companies,	760
Liquors and beverages,	704
Clay, glass and stone products,	682
Clothing,	515
Extraction of minerals,	494
Professional service,	491

Number of reported Non-fatal Accidents by Industries — Concluded.

INDUSTRY.	Number of Cases.
Agriculture, forestry, animal husbandry, etc.,	440
Telephone and telegraph,	308
Miscellaneous transportation,	69
Miscellaneous industries,	8,534
Total,	94,587

In considering this table the fact should be noted that the figures show only the actual occurrence of injuries, but do not show the danger or hazard of the different industries. The element of exposure to accidents, measured either by the number of employees or by the amount of the pay rolls, is not shown. For this reason comparisons between industries should not be made to determine relative hazards, but only from the point of view of absolute occurrence. Obviously those industries in which there is a large number of employees will show a high frequency independent of the danger of the industry.

Number of Fatal Accidents by Industries.

INDUSTRY.	Number of Cases.
Road, street and bridge transportation,	128
Building trades,	54
Trade,	46
Textiles,	23
Iron and steel,	17
Food and kindred products,	10
Domestic and personal service,	10
Paper,	7
Lumber and its remanufacture,	7
Agriculture, forestry, animal husbandry, etc.,	7
Extraction of minerals,	6
Water transportation,	4
Chemical and allied products,	4
Clay, glass and stone products,	3

Number of Fatal Accidents by Industries—Concluded.

INDUSTRY.	Number of Cases.
Professional service,	3
Express companies,	2
Liquors and beverages,	2
Telephone and telegraph,	2
Printing and bookbinding,	2
Metals and metal products,	1
Miscellaneous transportation,	1
Miscellaneous industries,	23
Leather and its finished products,	9
Total,	370

These figures show that 73 per cent. of the deaths were contributed by the first five industrial groups. The distribution of this number by per cents. is as follows:—

	Per Cent.
Road, street and bridge transportation,	35
Building trades,	15
Trade,	12
Textiles,	6
Iron and steel,	5

The number of cases under the general group road, street and bridge transportation, 128, is subdivided as follows: steam railroads, 56; street railways, 9; truck, transfer, cab and hack companies, 15; livery stables, 4; construction and maintenance of streets, roads, sewers, bridges, etc., 44.

Out of the total number of fatal accidents, 289, or 78 per cent., were insured under the act. Of the 81 cases which were not insured under the act 56 fatalities occurred among those who worked for steam railroads.

CAUSES.

The causes of fatal and non-fatal accidents are shown in general groups in the following tables:—

Causes of Non-fatal Accidents.

CAUSES.	Number of Cases.
Hand labor,	30,950
Falls,	8,749
Machinery peculiar to special industries,	8,676
Eye injuries,	6,634
Vehicles,	4,465
Nails,	4,066
Infection from trivial cuts, etc.,	3,572
Burns,	3,319
Falling material from overhead,	1,523
Glass,	1,516
Saws,	1,410
Presses,	1,407
Gears,	1,086
Street railways,	1,045
Belting,	1,034
Animals, insects, etc.,	969
Railroad equipment,	947
Elevators,	941
Lathes,	869
Emery wheels,	782
Occupational diseases,	699
Shafting, set screws, couplings, etc.,	664
Hoists,	644
Wood molders, shapers, etc.,	623
Drills,	481
Electricity,	437
Excavating,	336
Cranes,	325
Milling machines,	256
Illness,	186
Engines,	181
Explosions,	159
Calenders,	137
Assault and fighting,	135
Planers,	99
Six other causes,	250
Miscellaneous unclassified,	5,025
Total,	94,597

If these figures are divided into three large groups, namely, hand labor, other non-machine accidents and machine accidents, the relative distributions are, respectively, 33, 44 and 23 per cent.

The next table in this section shows a similar classification by causes of the 370 fatal cases.

Causes of Fatal Accidents.

CAUSES.	Number of Cases.
Falls,	83
Railroad equipment,	60
Vehicles,	47
Elevators,	26
Hand labor,	24
Burns,	20
Electricity,	14
Machinery peculiar to special industries,	12
Asphyxiation, drowning, etc.,	11
Hoists,	10
Infection from trivial cuts, etc.,	9
Excavating,	9
Street railways,	6
Falling material from overhead,	6
Belting,	5
Animals, insects, etc.,	4
Portable tools,	4
Shafting, set screws, couplings, etc.,	3
Cranes,	3
Occupational diseases,	3
Engines,	2
Explosions,	2
Saws,	2
Assault and fighting,	1
Presses,	1
Gears,	1
Miscellaneous unclassified,	3
Total,	370

By dividing these figures into the same groups as under non-fatal accidents the relative distributions are hand labor, 6 per cent., non-machine accidents, 75 per cent., and machine accidents, 19 per cent.

If we take those causes which were responsible for ten or more deaths, it is found that, combined, this group composed about 82 per cent. of the total number. The distribution by per cents. in this group is as follows: falls, 22 per cent.; railroad equipment, 16 per cent.; vehicles, 13 per cent.; elevators, 7 per cent.; hand labor, 6 per cent.; burns, 5 per cent.; electricity, 4 per cent.; and approximately 3 per cent. each on account of machinery peculiar to special industries, asphyxiation, drowning, etc., and hoists.

TIME OF OCCURRENCE.

The hour of the day and the day of the week on which fatal and non-fatal injuries occurred are shown in the tables given below: —

Distribution of Accidents by Hours of the Day.

	MORNING.											
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Non-fatal, .	174	319	291	311	318	488	2,014	5,902	9,341	13,096	11,798	6,211
Fatal, .	2	4	6	1	2	2	10	21	36	30	35	22

	AFTERNOON.											
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
Non-fatal, .	3,246	7,829	10,753	9,549	6,892	2,420	746	895	735	548	504	217
Fatal, .	22	27	35	34	29	11	8	7	9	6	6	5

The following table shows the days of the week on which injuries occurred: —

Distribution of Accidents by Days of the Week.

DAY OF WEEK.	Number of Non-fatal Cases.	Number of Fatal Cases.
Monday,	16,128	52
Tuesday,	16,299	60
Wednesday,	16,127	57
Thursday,	16,108	64
Friday,	16,163	61
Saturday,	12,172	60
Sunday,	1,600	16
Total,	94,597	370

In considering this table the one fact which stands out as worth particular mention is the occurrence of the greatest number of accidents on Tuesday. In general, the greatest number of accidents in published experience shows the peak on Monday. This was so in Massachusetts' experience for the first year of the act, but in the second and third years the peak is on Tuesday, with the next higher number of accidents on Friday, in accordance with general experience.

Without knowing the number of persons employed on the different days of the week it is not possible to say whether this deviation from the normal is inherent to Massachusetts conditions and workmen, as a development in the second and third years of the act, or whether the change in the peak is merely temporary and caused by some change in industrial conditions of employment.

SEX.

The next table shows the distribution of fatal and non-fatal accidents among males and females.

Distribution of Accidents by Sex.

	Non-fatal.	Fatal.
Males,	86,089	369
Females,	8,508	1
Total,	94,597	370

As shown by this table the relative number of non-fatal accidents which occurred among men is 91 per cent. In fatal cases 1 out of the 370 was a woman.

WAGES.

In this section is shown the frequency of accidents according to the wages received by the injured persons.

Distribution of Non-fatal Cases by Wage Groups.

WAGE GROUPS.	Number of Cases.	WAGE GROUPS.	Number of Cases.
\$5 and under,	4,579	\$16 01 to \$17 00,	3,932
6 01 to \$7 00,	3,040	17 01 to 18 00,	5,285
7 01 to 8 00,	5,228	18 01 to 19 00,	1,556
8 01 to 9 00,	7,809	19 01 to 20 00,	2,949
9 01 to 10 00,	7,283	20 01 to 21 00,	1,833
10 01 to 11 00,	8,072	21 01 to 22 00,	1,139
11 01 to 12 00,	12,748	22 01 to 23 00,	523
12 01 to 13 00,	4,410	23 01 to 24 00,	856
13 01 to 14 00,	7,848	24 01 to 25 00,	1,438
14 01 to 15 00,	7,913	Over \$25,	2,671
15 01 to 16 00,	3,490	Total,	94,597

Distribution of Fatal Cases by Wage Groups.

WAGE GROUPS.	Number of Cases.	WAGE GROUPS.	Number of Cases.
\$5 and under,	8	\$16 01 to \$17 00,	17
6 01 to \$7 00,	4	17 01 to 18 00,	24
7 01 to 8 00,	11	18 01 to 19 00,	8
8 01 to 9 00,	16	19 01 to 20 00,	15
9 01 to 10 00,	24	20 01 to 21 00,	13
10 01 to 11 00,	26	21 01 to 22 00,	6
11 01 to 12 00,	60	22 01 to 23 00,	3
12 01 to 13 00,	16	23 01 to 24 00,	6
13 01 to 14 00,	42	24 01 to 25 00,	11
14 01 to 15 00,	28	Over \$25,	19
15 01 to 16 00,	13	Total,	370

AGE.

The next table shows in parallel column the distribution of fatal cases and non-fatal cases by age groups.

Distribution of Accidents by Age Groups.

Age.	Number of Fatal Cases.	Number of Non-fatal Cases.
Under 16,	2	870
16 to 20,	18	12,630
21 to 29,	85	35,012
30 to 39,	79	23,287
40 to 49,	76	14,090
50 to 59,	73	6,273
60 and over,	37	2,435
Total,	370	94,597

DURATION OF TOTAL DISABILITY.

In this section is shown the distribution of the duration of total disability in non-fatal cases.

Duration of Total Disability.

Groups.	Number of Cases.	Groups.	Number of Cases.
Less than 1 day,	42,478	4 to 8 weeks,	6,979
1 to 3 days,	10,084	8 to 13 weeks,	2,687
4 to 7 days,	11,675	13 to 26 weeks,	1,683
8 to 10 days,	4,287	26 to 51 weeks,	609
11 to 14 days,	5,131	1 year and over,	421
15 to 28 days,	8,564	Total,	94,597

SPECIFIED INJURIES.

The next table gives the cases in which there was a loss of a member, or members, or cases in which the member was not

amputated but was so injured as to be rendered permanently incapable of use, and cases with loss of vision to one-tenth of normal with glasses.

Nature of Specified Injuries.

INJURY.	Number of Cases.	Additional Compensation (Weeks).
Both eyes and one hand,	1	150
Both feet,	2	} 100
One eye and one hand,	1	
One foot and one toe,	1	62
One eye,	104	} 50
One hand,	43	
One foot,	14	
Two or more fingers on one hand,	115	} 25
Two or more toes,	9	
One finger and one toe,	1	24
One finger,	618	} 12
One toe,	23	
Total,	932	-

The last column of this table shows the aggregate number of weeks payable per case as additional compensation on account of the specific injuries, if the cases were insured under the act. In those cases in which there is shown some number of weeks other than twelve, twenty-five, fifty or one hundred there is a combination of injuries. In such cases the compensation is paid concurrently at the weekly rate of regular compensation for the number of weeks allowed for each separate type of injury alone. This explanation is made in order that the last column, showing the aggregate number of weeks' compensation, may not be misleading as to the method by which the compensation is payable.

FATAL CASES.

In this section are given tables showing various facts about fatal cases.

Conjugal Condition.

CONDITION.	Number of Cases.	CONDITION.	Number of Cases.
Single,	117	Married,	229
Widowers,	21	Total,	370
Divorced,	3		

Dependency.

DEGREE.	Number of Cases.	Number of Dependents.
Total,	242	637
Partial,	59	94
None,	60	0
Total,	370	731

In connection with this table, showing facts regarding dependency, it is important to note that in those cases in which compensation is payable under the act, the number of cases of dependency shows the number of claims to be paid and not the total number of dependents. In Massachusetts compensation is not paid according to the number of dependents, but is based on a fixed rate of the average weekly wages and payable by the case, on the basis of whether or not there is any dependency, and if so whether such dependency is total or partial. Of the total number of cases shown above, 289 were insured under the act.

PAYMENTS REPORTED BY INSURANCE COMPANIES.

The following tables show the number of cases in which payments were made by insurance companies, and the amount of the payments made and estimated to be made. These figures are based on returns made by the companies to the Board for the year ending June 30, 1915.

Number of Cases and Nature of the Benefits.

NATURE OF BENEFITS.	Number of Cases.
Medical services only,	48,796
Non-fatal compensation only,	2,372
Both medical and compensation,	14,018
Fatal cases: —	
Total dependency,	174
Partial dependency,	38
No dependency,	40
Total,	65,488

The next table shows the amount of the payments made and estimated to be made on account of accidents of the year stated above.

Compensation Payments.

NATURE OF BENEFITS.	Payments made.	Payments estimated.	Total.
Medical,	\$446,273 65	\$141,496 34	\$587,769 99
Non-fatal,	810,718 72	691,466 71	1,502,185 43
Fatal: —			
Total dependency,	97,115 84	561,777 99	658,893 83
Partial dependency,	14,100 60	56,442 23	69,542 83
No dependency,	5,022 01	15,034 90	20,056 91
Total,	\$1,373,230 82	\$1,465,218 17	\$2,838,448 99

In looking at these figures the estimated outstanding payments on account of fatal cases in which there is no dependency give an average in excess of the maximum of \$200 provided by the act in such cases. This is partly due, in a few instances at least, to the fact that some companies carry a reserve to meet any possible future claim of dependency.

The figures given in this chapter are intended only as a brief summary of the tables printed in the Appendix of the report. In treating these figures very little comment has been made, but in the next chapter, in which the experience for the first three years of the act is compared, there is given a more extended commentary.

**COMPARATIVE STATISTICS OF INDUSTRIAL ACCIDENTS.
MASSACHUSETTS EXPERIENCE FOR YEARS ENDING
JUNE 30, 1913, 1914, 1915.**

In the preceding chapter was given a brief analysis of the accident experience in Massachusetts for the third year of the act. In this chapter is given a comparative summary of the accident experience for the first three years of the act, based on tables printed in this and in previous annual reports. In general, the figures for each of the three years are comparable in so far as methods of tabulation are concerned. Wherever the facts are not strictly comparable, indication of a change in basis will be made so that any fluctuations on account of this factor may be eliminated. Also a complete understanding of the figures will be facilitated by defining the basis of the various classifications, when such definition seems to be advisable.

The frequency distributions given in the following pages show the absolute numbers, and also in most cases the relative frequency, by per cents. Unfortunately the Board has not at this time data to measure the exposure to accidents each year, or the relative exposure between groups for a single year. Obviously changes in industrial conditions, other things being equal in matters of personnel, safety and nature of work, will affect the accident rate. Under such conditions an increase in the number of employees, and the number of hours worked by such employees, will tend to increase the number of accidents. Although the Board at different times has attempted to obtain from employers the number of full-time workers, or some other unit of similar nature, such as the number of man-hours, this is practically impossible of attainment owing to the fact that employers do not keep records in such form that this information may be readily given. The amount of pay rolls as a measure of exposure, although differences in the rate of wages introduce a certain error, appears to be the nearest approach to this end practically possible at the present time. Furthermore, to obtain the amount of the pay rolls so that there may be the proper correlation between exposure for the period covered by the returns from the accident reports and the experience as tabulated, and also the classification of industries, requires

several fundamental changes in the existing methods of collecting and tabulating data. The Board is working in the direction outlined above, but the experience is accumulating at such rate that it has been necessary to continue the system of tabulation on approximately the same basis as originally established, in order to preserve the value of the figures already compiled, until sufficient opportunity is given to make the necessary changes and, if possible, to reclassify past experience on the new basis.

Although figures published in the past have not made possible an answer to all questions, nevertheless the experience has been valuable and has been used to a considerable degree in connection with many questions of practical importance. The following tables and explanations show some of the main tendencies in connection with industrial accidents in Massachusetts for the first three years under the Compensation Act, which went into effect July 1, 1912.

TOTAL REPORTED ACCIDENTS.

In the three years July 1, 1912, to June 30, 1915, there have been reported to the Board 282,026 injuries, both fatal and non-fatal. The law requires that every employer shall keep a record of injuries, whether fatal or otherwise, and report such injuries to the Board. This has been interpreted to mean that injuries even of a trivial nature, including those which occasion very little or no disability, must be reported. This definition applies to the figures given in this section, since all reports have been summarized in which the injury was due to industry. The following table shows the number of accidents for each year under consideration. In this and the other tables shown the terms first, second and third year will refer, respectively, to the periods July 1, 1912, to June 30, 1913, July 1, 1913, to June 30, 1914, and July 1, 1914, to June 30, 1915.

Total Reported Accidents, Fatal and Non-fatal, by Years.

INJURIES.	First Year.	Second Year.	Third Year.	Total.
Non-fatal,	89,694	96,382	94,597	280,673
Fatal,	474	509	370	1,353
Total,	90,168	96,891	94,967	282,026

The ratios between total accidents and fatal and non-fatal accidents for each year are shown by the following percentage rates. The percentages of non-fatal accidents based on the totals for each year are, respectively, 99.5, 99.5 and 99.6 per cent. Similar ratios for the fatal cases are .5, .5 and .4 per cent. Based on the total number of reported accidents for the three years these figures are distributed in the case of non-fatal accidents as follows: 31.8, 34.2 and 33.5 per cent. Similar percentage rates for fatal cases are .2, .2 and .1 per cent. Taking the total number of accidents for the first and second years of the act, the second year shows an increase over the first which amounts to 7.5 per cent., and the third year shows a decrease over the second of 2 per cent. The increase of the second year probably is to be accounted for principally as due to better reporting and better understanding of the act in general. In connection with this decrease of 2 per cent., which probably would in a general way be ascribed to the effect of business conditions, it is interesting to compare this decrease with that shown in the case of 48 concerns which had carried out recommendations for installing safety devices and organizing safety committees. In these concerns, regarding which there is printed in the second annual report a special study, the reduction in the total number of reported accidents was 20.8 per cent. Although this difference in the rate of reduction is not conclusive evidence of the possible effect of the safety work at these plants, the coincidence, at any rate, has a certain amount of interest.

Further analysis of these figures to show the number of cases insured under the act is made in the following table:—

Number of Insured Cases, Fatal and Non-fatal.

INJURY.	First Year.	Second Year.	Third Year.	Total.
Non-fatal,	72,862	83,797	86,350	243,018
Fatal,	290	371	289	950
Total,	73,152	84,168	86,648	243,968

This table shows an increase in the total number of cases insured under the Compensation Act. In the first year 81.2 per cent. of the non-fatal cases were insured, and 61.2 per cent. of the fatal cases were insured. In the second year the percentage distributions were, for non-fatal cases, 86.9 per cent., and for fatal cases, 72.9 per cent. In the third year the ratios in the same order were 91.3 and 78.1 per cent. For the three years combined the total number of insured reported cases is 243,968. This represents 86.5 per cent. of the total number of reported cases. These figures indicate that an increasing number of employees has been insured under the provisions of the Compensation Act. Although from this data it is not possible to say what the increase in the total number of insured employees has been, the figures showing the results with reference to those who have been injured is a fairly reliable indication of the tendency.

The facts so far shown in this chapter have been intended mainly to point out the accident magnitude for the three years. Owing to the fact that there are included in these figures minor injuries as well as the more serious, a real analysis is not possible without studying the gravity of the injuries.

DURATION OF TOTAL DISABILITY.

For the purpose of throwing light on the relative extent of the injuries in the three years under consideration, and eliminating the effect of minor injuries, which are more subject to fluctuation on account of the factor of reporting, this section deals with the duration of total disability. Under this classification is included a statement of the time lost on account of total incapacity. This applies to all total incapacity. Total

disability in temporary cases, in cases of specified injuries, in permanent total cases, and in partial disability cases, either temporary or permanent, preceding the beginning of partial incapacity, is included in this section. There is not included in this section the amount of time lost on account of partial incapacity. Under the Massachusetts law there is no provision for awards on account of permanent disability, whether total or partial. There is simply the provision that compensation will continue during incapacity, but not longer than the time prescribed by the statute. With this general explanation in mind the following table is shown to give weight to the relative extent of injuries in the three years, as measured by the period of total disability in non-fatal cases:—

Duration of Total Disability.

DURATION.	First Year.	Second Year.	Third Year.	Total.
Less than 1 day,	36,901	41,209	42,478	120,648
1 to 3 days,	31,685	11,458	10,084	31,177
4 to 7 days,		12,843	11,675	
8 to 10 days,		4,517	4,287	
11 to 14 days,		5,236	5,131	
15 to 28 days,	10,568	9,222	8,564	28,354
4 to 8 weeks,	6,638	7,066	6,979	20,683
8 to 13 weeks,	2,355	2,549	2,687	7,591
13 to 26 weeks,	1,275	1,491	1,682	4,448
26 to 51 weeks,	272	438	609	1,030
1 year and over,		293	421	
Total,	89,694	96,382	94,597	280,673

Owing to the fact that in the second year of the act the classification of duration of disability was changed to show the frequency in greater detail, comparison with the first year's operations cannot be made strictly with the finer divisions in the following years. The table as arranged above, however, makes possible a comparison for the three years for the groups less than 1 day, 1 to 14 days, 15 to 28 days, 4 to 8 weeks, 8 to 13 weeks, 13 to 26 weeks, and over 26 weeks. In connection with the other finer groups a word of explanation should be

given on the group 1 year and over. This group includes cases of 358 days and over, the preceding group being limited to cases in which the duration is between 26 weeks and 1 day to 51 weeks, inclusive. With these explanations in mind the figures probably may best be analyzed by reducing the frequency in the different groups to a percentage of the yearly total basis. Taking the group less than 1 day in duration, the ratios of the number of cases therein to the total for each year are, for the first year, 41.2 per cent., for the second year, 42.8 per cent. and for the third year, 44.9 per cent. This relative increase in the number of such cases, as compared with the total number of reports for each year, is principally merely an indication of better reporting of trivial injuries. In cases with a duration between 1 and 14 days the per cents. for each of the years in order are 35.3, 35.3 and 32.9. Taking the finer distributions within this group for the second and third years of the act, the following tabulation shows the relative distributions: —

Percentage of the Annual Number of Reports.

DURATION.	Second Year.	Third Year.
1 to 3 days,	11.9	10.7
4 to 7 days,	13.3	12.3
8 to 10 days,	4.7	4.5
11 to 14 days,	5.4	5.4
	35.3	32.9

Comparison of the remaining groups in the distribution for the three years is shown in the next tabulation.

DURATION.	First Year (Per Cent.).	Second Year (Per Cent.).	Third Year (Per Cent.).
15 to 28 days,	11.8	9.6	9.1
29 to 56 days,	7.4	7.3	7.4
57 to 91 days,	2.6	2.7	2.8
92 to 182 days,	1.4	1.5	1.8
183 days and over, . . . . .	.3	.8	1.1
	23.5	21.9	22.2

Analysis of this last group, which shows the number of cases over six months in duration for the second and third years of the act, gives the following results: in the group more than 6 months to 51 weeks, the per cents. for the second and third years are .5 and .6 per cent.; for the group over 51 weeks the per cents. are .3 and .5 per cent. Although these figures are of some value for the purpose of understanding the effect of all accidents reported, the inclusion of a large number of trivial injuries operates to lessen the importance of the weight which should be attached to cases of longer duration.

If cases in which the duration of disability is less than 15 days are eliminated from the preceding figures, the percentage distributions for the three years are as follows: —

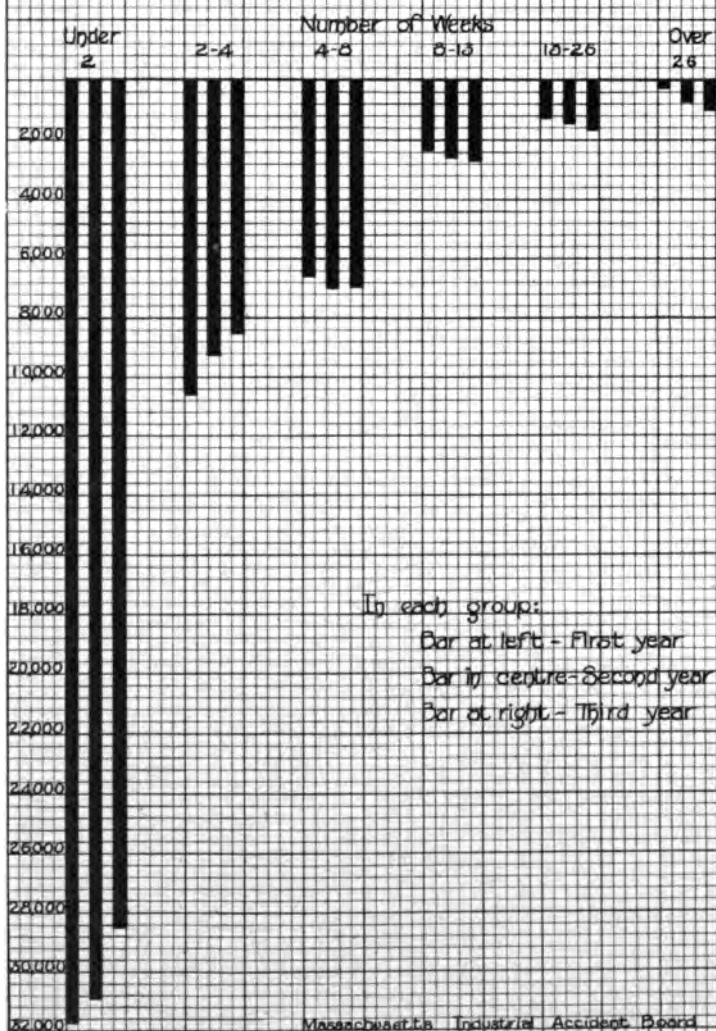
Relative Frequency in Cases Over Two Weeks in Duration (Per Cent.).

DURATION.	First Year.	Second Year.	Third Year.
2 to 4 weeks,	50.1	43.8	40.9
4 to 8 weeks,	31.4	33.5	33.3
8 to 13 weeks,	11.2	12.1	12.8
13 to 26 weeks,	6.0	7.1	8.1
Over 6 months,	1.3	3.5	4.9
Total,	100.0	100.0	100.0

These figures show in general a tendency to increase from the first year of the act in the last three distribution groups, and especially so in the group over 6 months. Part of this may be due to the fact that in some cases it was necessary to estimate the period of disability, and to a certain extent this is on a more liberal basis than was the case in the first year of the act. Nevertheless, the tendency towards relative decrease in the first group, and a slight upward tendency in the other groups, probably fairly represents the actual experience. According to other experience this might reasonably be expected, and the point at which it will stop is dependent to some extent on the methods generally adopted for the elimination of the serious injuries.

Although there is some danger in making the results which should be brought out in this section obscure by introducing

DURATION OF DISABILITY IN TABULATABLE NON-FATAL CASES



too many figures on the same subject, it seems advisable to show the frequency distributions on one more basis, namely, on total non-fatal tabulatable accidents. In this section a tabulatable accident is one causing disability on any day, turn or shift other than the one on which the injury occurred. This definition is one coming more and more into general usage; the effect is to eliminate accidents of a trivial nature in which there is little or no disability. Distributing the injuries on this basis gives the following results:—

Duration in Tabulatable Non-fatal Accidents.

DURATION.	First Year.	Second Year.	Third Year.	Total.
2 weeks and less,	31,685	30,362	28,446	90,993
2 to 4 weeks,	10,568	9,222	8,564	28,354
4 to 8 weeks,	6,638	7,066	6,979	20,683
8 to 13 weeks,	2,355	2,549	2,687	7,591
13 to 26 weeks,	1,275	1,491	1,682	4,448
Over 26 weeks,	272	781	1,030	2,083
Total,	52,793	51,921	49,388	154,102

The next table, based on the foregoing figures, shows the distribution by per cents.

Frequency of Tabulatable Accidents by Per Cents.

DURATION.	First Year.	Second Year.	Third Year.	Total.
Less than 2 weeks,	60.0	59.4	57.6	59.1
2 to 4 weeks,	20.0	17.8	17.3	18.4
4 to 8 weeks,	12.6	13.6	14.1	13.4
8 to 13 weeks,	4.5	4.9	5.5	4.9
13 to 26 weeks,	2.4	2.9	3.4	2.9
Over 26 weeks, . . . . .	.5	1.4	2.1	1.3
Total,	100.0	100.0	100.0	100.0

Inspection of this tabulation shows the following tendencies: in the groups for disability 2 weeks and less, and for 2 to 4 weeks, there is a relative decrease each year from the first to

the third. In each of the remaining groups the ratio between the frequency for the groups and the total for the year shows an increase each year. In connection with these tendencies of decrease or increase the absolute numbers also show a similar actual decrease or increase, except in the group 4 to 8 weeks, for the third year as compared with the second, there is a decrease in the actual frequency, but an increase in the ratio which the respective figures bear to the total for the respective years.

Under this section, in which is shown the distribution of the duration of total disability, there are three ways in which the figures are classified, namely, total reported accidents, accidents with a duration over two weeks, and accidents which are tabulatable as previously defined. The object in showing the frequency on these different bases is merely to indicate the results as variously worked out. For the purpose of this section probably the best basis to take is that showing the tabulatable accidents. On this basis the very trivial accidents are eliminated, and yet there is included a sufficient number of reports to cover practically all cases in which medical attention has been required. In addition to this fact the definition is one which is being adopted, and for this reason there is a practical advantage in using this basis to facilitate comparison with other experience.

Before concluding this section attention is called to the following summary, comparing the combined experience for the three years on the basis of reported accidents and on the basis of tabulatable accidents.

Non-fatal Cases, Reported and Tabulatable, for Three Years.

Basis.	First Year.	Second Year.	Third Year.	Total.
Reported,	89,694	96,382	94,597	280,673
Tabulatable,	52,793	51,921	49,388	154,102

These figures bring out the fact that the number of reported accidents shows an upward tendency for the three years, with

the highest number, however, in the second year. Tabulatable accidents show a decreasing number over the preceding periods. This difference in the direction of the magnitude is due to the effect of the increasing number of reports for cases in which the disability was less than 1 day. The decrease in the number of reported accidents in the third year over the second is due not to trivial injuries, which increased, but to a reduction in the number of cases between 1 and 56 days. Cases in which the duration of disability was over 8 weeks increased in the third year as compared with the second, despite the decrease in the total number of cases.

INSURANCE COMPANY TRANSACTIONS UNDER THE ACT.

The next matter to be considered is that having to do with the payment of benefits under the act. Figures in this section are based on returns made to the Board by the different insurance companies transacting workmen's compensation business. These figures are filed by the companies in answer to a circular sent from this office. In general, these figures are accepted as filed, and are not checked up by the Board other than for errors or for apparent differences in interpreting the questions submitted, which can be determined by inspecting the returns themselves. With this explanation the following figures are shown as representing the payments reported for the three years under consideration: —

Number of Benefit Cases.

TYPE OF BENEFIT.	First Year.	Second Year.	Third Year.	Total.
Non-fatal: —				
Medical service only,	26,303	42,798	48,796	117,897
Compensation only,	3,571	3,008	2,372	8,951
Medical and compensation,	11,220	14,029	14,018	39,267
Fatal: —				
Total dependency,	213	219	174	606
Partial dependency,	31	69	38	138
No dependency,	45	37	40	122
Total,	41,383	60,100	65,436	166,919

The next table gives the amount of the payments made and estimated to be made on account of the cases shown above.

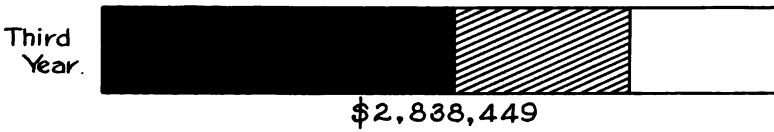
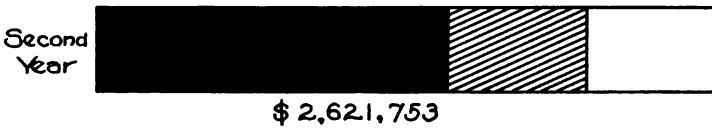
Payments and Estimated Outstanding Payments.

TYPE OF BENEFIT.	First Year.	Second Year.	Third Year.	Total.
Medical payments,	\$397,131 87	\$446,171 52	\$446,273 65	\$1,189,577 04
Medical estimates,	117,063 55	110,078 93	141,496 24	368,638 82
Fatal: —				
Total dependency: —				
Payments,	32,863 66	57,396 33	97,115 84	187,375 83
Estimates,	327,240 06	440,279 74	561,777 90	1,329,297 79
Partial dependency: —				
Payments,	2,110 26	12,171 25	14,100 60	28,382 11
Estimates,	25,825 04	59,830 26	55,442 23	141,097 53
No dependency: —				
Payments,	4,169 87	3,611 03	5,022 01	12,802 91
Estimates,	3,333 00	5,417 14	15,034 90	23,785 04
Non-fatal: —				
Payments,	451,673 01	808,983 60	810,718 72	2,071,375 42
Estimates,	415,970 50	677,813 02	601,466 71	1,785,250 23
Total,	\$1,677,390 82	\$2,621,752 91	\$2,838,448 99	\$7,137,582 72

In considering these figures the fact should be remembered that the payments should be analyzed in connection with the number and nature of the cases to which they apply; also, in comparing one year with another, there is one important item not shown, and that is the amount of the pay rolls, or the amount of the premium to which the losses are related. In the figures for the third year there is included the experience for nine months under the increased benefits which went into effect Oct. 1, 1914. In this third year there was a decrease in the number of compensation cases, especially fatal cases, as compared with the second year of the act. This statement does not apply to cases in which there was expense on account of medical attention alone. In addition to these factors which must be considered in studying the figures, allowance also must be made for possible changes in the estimates as the experience matures. The figures as shown here have not as

PAYMENTS AND ESTIMATED

OUTSTANDING PAYMENTS



yet been revised, but are in the form reported a few months after the closing of each year. For these reasons the costs of benefits should not be assumed to be in final form, but should be taken as an indication of the approximate cost of losses only.

SPECIFIED INJURIES.

The next matter to be taken up in connection with the extent of injuries is that of specified injuries for which additional compensation is payable if the employee is insured under the Compensation Act. These figures are taken from the reports made to the Board, and include both insured and not insured cases. Under the Compensation Act a specified injury includes loss of members by amputation, or permanent loss of use of a member, and the reduction to one-tenth of normal vision with corrective glasses in one or both eyes. For such losses, when an employee is insured under the Compensation Act, there is payable compensation, in addition to that for incapacity, for certain specified periods of time, dependent on the nature of the injury. The frequency of this type of injury for each of the three years is shown in the following table:—

Number and Type of Specified Injuries.

NATURE OF INJURY.	First Year.	Second Year.	Third Year.	Total.	Aggregate Weeks per Case.
Both eyes and one hand,	-	1	1	2	150
Both feet,	1	2	2	5	100
Both eyes,	2	-	-	2	
One hand and one foot,	-	1	-	1	
One eye and one hand,	-	1	1	2	
One hand and two or more fingers,	-	2	-	2	75
One foot and two or more toes,	-	2	-	2	
One foot and one toe,	-	-	1	1	62
One eye,	47	77	104	228	50
One hand,	35	38	43	116	
One foot,	22	22	14	58	
Two or more fingers on each hand,	-	1	-	1	37
Two fingers on one hand, one finger on other,	-	1	-	1	
Two or more fingers,	133	112	115	360	25
Two or more toes,	21	9	9	39	

Number and Type of Specified Injuries — Concluded.

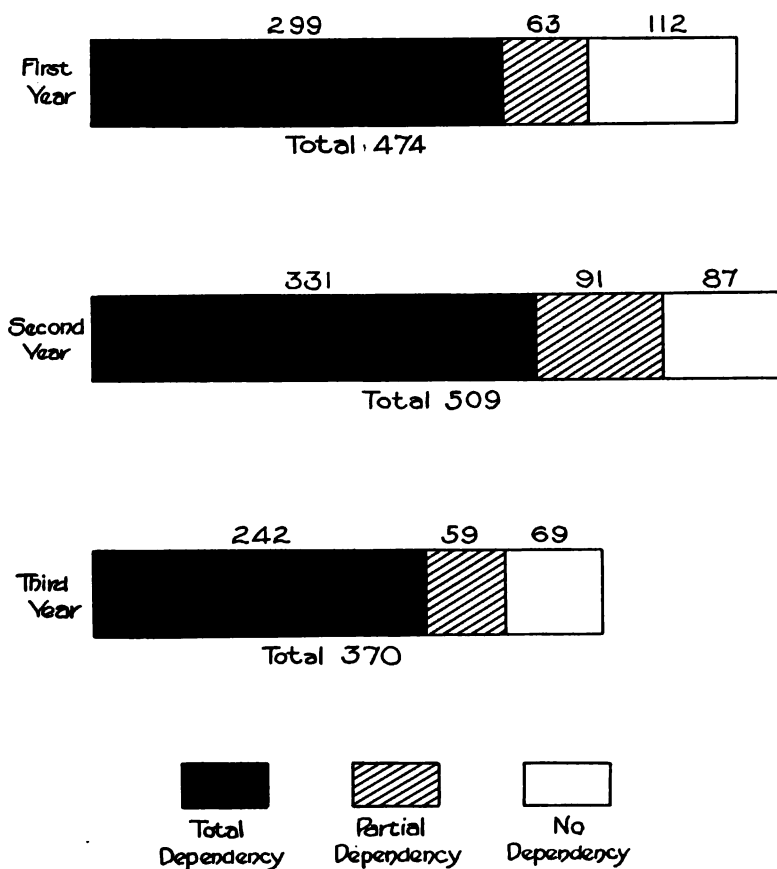
NATURE OF INJURY.	First Year.	Second Year.	Third Year.	Total.	Aggregate Weeks per Case.
One finger and one toe,	-	-	1	1	24
One finger,	672	804	618	2,094	} 12
One toe,	34	42	23	99	
Total,	967	1,115	932	3,014	-

As previously stated, the figures given above include both insured and not insured cases. At the right of the table is shown the aggregate number of weeks due in insured cases for each case of the type described under the nature of the injury column. If the assumption were made that additional compensation is due in each case, the aggregate number of weeks' compensation based on this experience for the three years would be 58,164 weeks. On this same basis the number of weeks for each year is as follows: first year, 17,822; second year, 20,964; third year, 19,378. On known insured experience for the second year of the act the aggregate number of weeks payable as additional compensation amounted to 18,871 weeks. This represents 90 per cent. of the aggregate number of weeks stated above for insured and not insured cases. If this proportion were true for each year the aggregate number of weeks payable for insured cases for the three years would be 52,347. Taking the total number of specified injury cases, the average period per case for additional compensation in insured cases is approximately 19 weeks.

FATAL CASES.

Under this section is shown the frequency of fatal accidents, together with other information in connection with the nature of the dependency involved, the number of dependents and the conjugal condition.

EXTENT OF DEPENDENCY FATAL CASES



Massachusetts Industrial Accident Board.
1912 - 1915

Number of Fatal Accidents per 1,000 Tabulatable Accidents.

	Rate.
First year,	8.9
Second year,	9.7
Third year,	7.4
Average,	8.7

As shown in a previous table, the actual number of industrial fatalities was, for the three years, 474, 509 and 370. The third year shows a decrease in the actual frequency over each of the preceding years, and also is less on the basis of 1,000 tabulatable accidents for the year. The average number for the three years, based on the total number of tabulatable accidents for the period, is 8.7. Although these rates are interesting and of some value, without knowing the real reasons for the fluctuations it is not possible at this time to make any deductions for future experience which will be to any degree dependable. In the light of future experience, however, it will be interesting to note whether there has been a permanent reduction in the number of fatalities, and if possible to determine within what limits the fatal rate is likely to move.

The next table shows the type of dependency in the fatal cases for the years under discussion.

Extent of Dependency in Fatal Cases.

NATURE OF DEPENDENCY.	First Year.	Second Year.	Third Year.	Total.
Total,	299	331	242	872
Partial,	63	91	50	213
No,	112	87	60	268
Total,	474	509	370	1,353

The relative distribution of the three types of dependency or each year, and the averages based on the total for the three years, are shown in the following table: —

Per Cent. of Each Type of Dependency, by Years.

NATURE OF DEPENDENCY.	First Year.	Second Year.	Third Year.	Total.
Total,	63.1	65.0	65.4	64.5
Partial,	13.3	17.9	15.9	15.7
No,	23.6	17.1	18.7	19.8

Although these figures show that there are fluctuations in these groups for the different years, these variations are not so great as might be expected, considering the nature of the items with which we are dealing. In fact, in the cases of total dependency the relative distribution is fairly regular for each of the three years.

In connection with the table showing the number of cases of dependency the following figures give the number of persons dependent in such cases: —

Number of Dependents in Cases of Total and Partial Dependency.

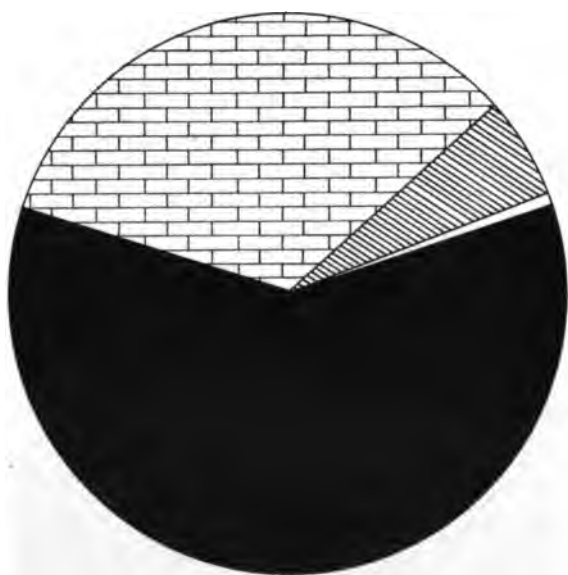
DEPENDENTS.	First Year.	Second Year.	Third Year.	Total.
Total,	770	942	637	2,349
Partial,	103	144	94	341
Total,	873	1,086	731	2,690

If we reduce the number of dependents to a unit to express the number of dependents per case of dependency the following results are shown: the average number of total dependents per total dependency case is for each year, in order, 2.6, 2.8, 2.6, and based on the totals for the three years, 2.7. Similar units for cases of partial dependency are 1.6, 1.6, 1.6, and for the total, 1.6.

Another matter of interest under fatal cases is the conjugal condition of those who died as the result of an injury. The next table shows these facts for the three years.

CONJUGAL CONDITION FATAL CASES

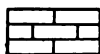
Based on Three Years' Experience



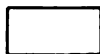
Married



Widowed



Single



Divorced

Massachusetts Industrial Accident Board

1912 - 1915

Conjugal Condition.

CONDITION.	First Year.	Second Year.	Third Year.	Total.
Single,	164	170	117	451
Widowers,	30	32	21	83
Divorced,	2	2	3	7
Married,	278	305	229	812
Total,	474	509	370	1,353

Taking the average experience for the three years, the percentage distribution for each of the groups is as follows: —

	Per Cent.
Single,	33.4
Widowers,	6.1
Divorced, . . . . .	.5
Married,	60.0

INDUSTRIES.

In this section is given the frequency distribution of reportable fatal and non-fatal accidents. In addition to this tabulation the frequency by industries is also distributed on the basis of total tabulatable accidents; that is, for all injuries causing death, specified losses of members or sight, and disability on any day, turn or shift other than the one on which the injury occurred. Although the Board is not in possession of accurate figures by which to measure the actual exposure to accidents in each industry, it is possible, from figures published by the Massachusetts Bureau of Statistics, to determine in a general way the relative weights to be assigned to manufacturing industries based on the number of employees in such industries. On this basis the distribution of tabulatable accidents in manufacturing industries is revised to reflect the accident rate for the industry.

In tabulating the frequencies by industries the groups are summarized in twenty-four main divisions. In the tables in the Appendix of the report there are shown in detail distributions for 116 industries according to the census classification. For general consideration, however, the main classifications are more easily handled, and are sufficiently detailed to show the principal tendencies which are operative.

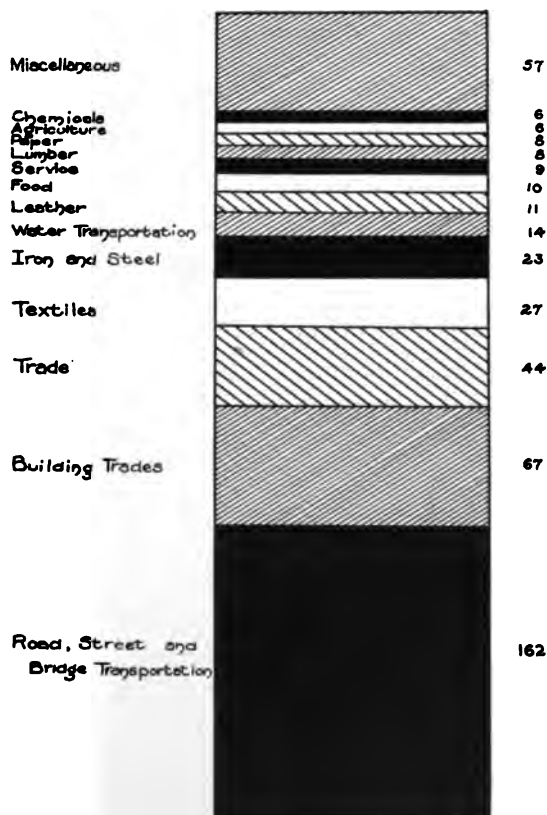
Frequency of Non-fatal Reported Injuries by Industries.

INDUSTRY.	First Year.	Second Year.	Third Year.	Total.
Iron and steel and their products, . . .	13,568	17,176	15,925	46,669 (1)
Textiles,	13,562	14,508	14,006	42,076 (2)
Road, street and bridge transportation, . .	11,398	11,818	12,795	36,011 (3)
Trade,	8,107	9,246	10,291	27,644 (4)
Building trades,	7,310	7,638	8,444	23,392 (5)
Leather and its finished products, . . .	5,713	6,376	5,942	18,031 (6)
Lumber and its remanufacture,	2,727	3,246	2,969	8,942 (7)
Metals and metal products,	4,299	11,727	1,485	7,511 (8)
Food and kindred products,	2,198	2,465	2,767	7,430 (9)
Paper,	2,106	2,408	2,255	6,768 (10)
Domestic and personal service,	1,331	1,673	1,903	4,907 (11)
Water transportation,	1,736	1,411	1,154	4,301 (12)
Printing and bookbinding,	792	908	841	2,541 (13)
Express companies,	864	821	780	2,445 (14)
Chemical and allied products,	708	854	828	2,390 (15)
Liquors and beverages,	624	730	704	2,048 (16)
Clay, glass and stone products,	427	596	662	1,704 (17)
Clothing,	419	477	515	1,411 (18)
Extraction of minerals,	331	460	494	1,275 (19)
Professional service,	276	472	491	1,239 (20)
Agriculture, forestry and animal husbandry, .	143	348	440	931 (21)
Telegraph and telephone,	348	248	303	899 (22)
Miscellaneous transportation,	10	26	69	105 (23)
Miscellaneous industries,	10,698	10,771	8,534	20,003 (24)
Total,	89,694	96,382	94,597	280,673

The order of industries given in this table is based on the magnitude of the totals for the three years, as indicated by the figures in parentheses at the right of the column of totals. As previously stated, these figures do not make allowance for the factor of the relative number of employees exposed to accident in the different industries. Also there is one difference which makes an appreciable fluctuation when comparing the second and third years with the first, due to a change in classifying injuries. This occurs in the group metals and metal products, in which were included in the first year a certain number of accident reports which were subsequently classified under the

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group iron and steel. Then, too, there are other factors which affect the number of accidents, one of which is probably in the matter of reporting. For these reasons very little is given in connection with this table in the way of analysis other than showing the figures in tabular form for the three years. The fact may be noted, however, that the frequency order of the industries is the same for each year in the case of the first six industries as listed above. A more detailed analysis of the frequency in the various industries will be made later on in the section, when considering tabulatable accidents, and the frequency as weighted by the units to measure the relative exposure.

The next table gives the frequency of fatal accidents by industries.

Fatal Accidents by Industries.

INDUSTRY.	First Year.	Second Year.	Third Year.	Total.
Road, street and bridge transportation,	183	174	128	485 (1)
Building trades,	71	74	54	199 (2)
Trade,	42	45	46	133 (3)
Textiles,	35	32	23	90 (4)
Iron and steel,	34	29	17	70 (5)
Water transportation,	31	17	4	42 (6)
Leather, etc.,	8	16	9	33 (7)
Food, etc.,	10	9	10	29 (8)
Domestic and personal service,	8	8	10	26 (9)
Lumber, etc.,	9	9	7	25 (10)
Paper,	5	11	7	23 (11)
Agriculture, etc.,	6	6	7	19 (12)
Chemicals, etc.,	5	10	4	19 (13)
Minerals, extraction of,	4	3	6	13 (14)
Liquors and beverages,	6	5	2	13 (15)
Express companies,	3	6	2	11 (16)
Clay, glass, etc.,	4	3	3	10 (17)
Telephone and telegraph,	2	5	2	9 (18)
Metals and metal products,	5	2	1	8 (19)
Professional service,	1	2	3	6 (20)
Printing and bookbinding,	1	2	2	5 (21)
Miscellaneous transportation,	-	-	1	1 (22)
Miscellaneous industries,	31	41	22	94 (23)
Total,	474	509	370	1,353

The figures given in this table are arranged according to the frequency based on the totals for the three years. The order for the individual years differs somewhat from this arrangement, although that for the five industrial groups at the head of the table is the same for each of the years. In view of the fact that within certain limits the occurrence of fatal accidents is a matter of chance, but little attention need be paid to variations between industries in single years. Sufficient light will be thrown on the subject if we consider the combined experience for the three years, and, in fact, there will be a further advantage due to the greater simplicity in handling only one set of figures, and at the same time eliminating somewhat the effect of variations due to the element of chance.

Based on the totals shown above, the percentage distributions for the different industries are shown in the following table. In parallel column is shown the number of fatal cases per 1,000 tabulatable accidents for each industry. In this column the rates are not arranged by the order of magnitude, but such order is indicated by a figure to the right of the rate, which may be compared with the order based on the total number of fatal cases as indicated at the right of the percentage distribution.

Percentage Distribution and Rate per 1,000 Tabulatable Accidents. Fatal Accidents by Industries for Combined Experience for Three Years.

INDUSTRY.	Per Cent. of Total.	Rate per 1,000 Tabulatable Accidents.
Road, street and bridge transportation,	35.9 (1)	21.1 (2)
Building trades,	14.7 (2)	13.8 (6)
Trade,	9.8 (3)	8.6 (10)
Textiles,	5.9 (4)	3.3 (19)
Iron and steel,	5.2 (5)	3.2 (20)
Water transportation,	3.1 (6)	1.3 (22)
Leather, etc.,	2.4 (7)	4.1 (17)
Food, etc.,	2.1 (8)	7.3 (13)
Domestic and personal service,	1.9 (9)	8.4 (11)
Lumber, etc.,	1.9 (10)	4.6 (16)
Paper,	1.7 (11)	5.4 (15)

Percentage Distribution and Rate per 1,000 Tabulatable Accidents. Fatal Accidents by Industries for Combined Experience for Three Years — Concluded.

INDUSTRY.	Per Cent. of Total.	Rate per 1,000 Tabulatable Accidents.
Agriculture, etc.,	1.4 (12)	24.6 (1)
Chemicals, etc.,	1.4 (12)	15.5 (3)
Extraction of minerals,	1.0 (14)	14.7 (4)
Liquors and beverages,	1.0 (15)	10.8 (8)
Express companies, . . . . .	.8 (16)	6.7 (14)
Clay, glass, etc., . . . . .	.7 (17)	8.2 (12)
Telephone and telegraph, . . . . .	.7 (18)	11.2 (7)
Metals and metal products, . . . . .	.6 (19)	1.9 (21)
Professional service, . . . . .	.4 (20)	10.0 (9)
Printing and bookbinding, . . . . .	.4 (21)	3.5 (18)
Miscellaneous transportation, . . . . .	.1 (22)	14.3 (5)
Miscellaneous industries,	6.9 (23)	6.9 (23)
Total,	100.0	8.7

In this table the first column of figures gives the distribution by per cents. based on the total number of fatal cases for the three years. The second column of figures gives the number of fatal cases per 1,000 tabulatable accidents for the three years, according to the number of such accidents in each industry taken as a base. As seen by this table there is considerable variation between the order of magnitude among the different industries when compared according to the relative distribution based on the total number of fatal cases and on the basis of the number of tabulatable accidents in each industry. To a certain extent, possibly in the classification agriculture, which stands first in magnitude on the unit per 1,000 tabulatable accidents, this position may be due to the fact that tabulatable accidents in this group are not reported with the care found in industries which are more subject to the jurisdiction of the Board. This does not necessarily follow, but the possibility should be indicated. In general, the figures given above are dependable for the purpose of measuring the comparative actual occurrence of fatal accidents between industries, and also

the frequency of fatal accidents in relation to the occurrence of all tabulatable accidents in the industries.

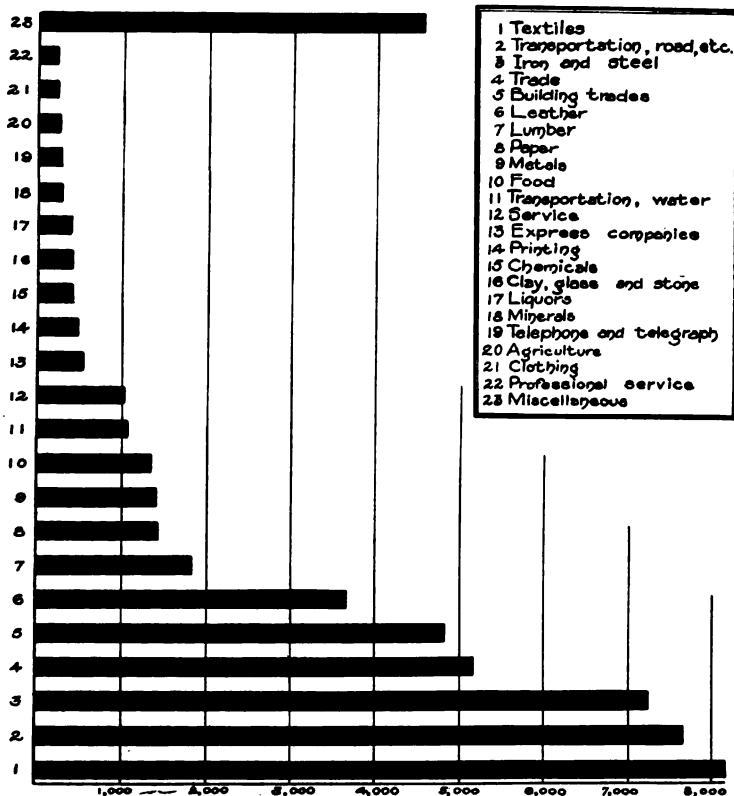
The next table shows the number of tabulatable accidents by industries. These figures cover both fatal and non-fatal injuries. As previously stated, the advantage of treating the figures on this basis lies in the effect of eliminating to a large extent the possibility of irregular reporting in those cases in which the disability is less than one day. This statement, however, should not be interpreted to mean that the trivial accidents should not be reported, because the law requires the reporting of all injuries.

Total Number of Tabulatable Accidents by Industries.

INDUSTRY.	First Year.	Second Year.	Third Year.	Total.
Textiles,	8,101	8,496	7,555	24,451 (1)
Road, street and bridge transportation, . .	7,709	7,460	7,766	22,995 (2)
Iron and steel and their products, . . .	7,034	8,034	6,658	21,726 (3)
Trade,	4,838	5,301	5,440	15,479 (4)
Building trades,	5,153	4,606	4,678	14,436 (5)
Leather and its finished products, . . .	2,563	2,906	2,552	8,061 (6)
Lumber and its remanufacture,	1,962	1,900	1,687	5,479 (7)
Paper,	1,468	1,514	1,393	4,375 (8)
Metals and metal products,	2,637	881	742	4,310 (9)
Food and kindred products,	1,277	1,298	1,417	3,992 (10)
Water transportation,	1,313	996	863	3,172 (11)
Domestic and personal service,	949	1,021	1,141	3,111 (12)
Express companies,	601	559	478	1,638 (13)
Printing and bookbinding,	495	477	459	1,431 (14)
Chemical and allied products,	388	418	422	1,228 (15)
Clay, glass and stone products,	325	430	482	1,237 (16)
Liquors and beverages,	391	435	388	1,204 (17)
Extraction of minerals,	245	330	312	887 (18)
Telephone and telegraph,	314	239	253	801 (19)
Agriculture, etc.,	123	282	267	772 (20)
Clothing,	234	216	232	682 (21)
Professional service,	151	230	232	603 (22)
Miscellaneous transportation,	5	15	50	70 (23)
Miscellaneous industries,	4,971	4,578	3,966	13,535 (24)
Total,	53,267	52,430	49,758	155,455

TOTAL TABULATABLE ACCIDENTS BY INDUSTRIES

Average of Three Years



The order in which the industries are arranged in this table is based on the frequency for the three years. Taking the experience for the individual years, the distributions for each industry, expressed in terms of per cents., are as follows:—

Frequency of Tabulatable Accidents by Per Cents.

INDUSTRY.	First Year.	Second Year.	Third Year.	Total.
Textiles,	15.2 (1)	16.2 (1)	15.8 (1)	15.7 (1)
Road, street and bridge transportation,	14.6 (2)	14.2 (3)	15.6 (2)	14.8 (2)
Iron and steel and their products,	13.2 (3)	15.3 (2)	13.4 (3)	13.9 (3)
Trade,	9.1 (5)	9.9 (4)	10.9 (4)	9.9 (4)
Building trades,	9.7 (4)	8.8 (6)	9.4 (5)	9.3 (5)
Leather and its finisher's products,	4.9 (6)	5.6 (6)	5.1 (6)	5.2 (6)
Lumber and its remanufacture,	3.6 (8)	3.6 (7)	3.4 (7)	3.5 (7)
Paper,	2.8 (9)	2.9 (8)	2.6 (9)	2.8 (8)
Metals and metal products,	4.9 (7)	1.6 (12)	1.5 (12)	2.7 (9)
Food and kindred products,	2.4 (11)	2.5 (9)	2.9 (8)	2.6 (10)
Water transportation,	2.5 (10)	1.9 (11)	1.7 (11)	2.0 (11)
Domestic and personal service,	1.8 (12)	2.0 (10)	2.3 (10)	2.0 (12)
Express companies,	1.1 (13)	1.1 (13)	1.0 (13)	1.1 (13)
Printing and bookbinding, . . . . .	.9 (14)	.9 (14)	.9 (14)	.9 (14)
Chemical and allied products, . . . . .	.7 (15)	.8 (15)	.9 (15)	.8 (15)
Clay, glass and stone products, . . . . .	.6 (17)	.8 (16)	.9 (16)	.8 (16)
Liquors and beverages, . . . . .	.7 (16)	.8 (17)	.8 (17)	.8 (17)
Extraction of minerals, . . . . .	.5 (19)	.6 (18)	.6 (19)	.6 (18)
Telephone and telegraph, . . . . .	.6 (18)	.4 (20)	.5 (20)	.5 (19)
Agriculture, etc., . . . . .	.2 (22)	.6 (19)	.7 (18)	.5 (20)
Clothing, . . . . .	.4 (20)	.4 (21)	.5 (21)	.4 (21)
Professional service, . . . . .	.3 (21)	.4 (22)	.5 (22)	.4 (22)
Miscellaneous transportation, . . . . .	.01 (23)	.08 (23)	.1 (23)	.1 (23)
Miscellaneous industries,	9.3 (24)	8.7 (24)	8.0 (24)	8.7 (24)

In analyzing these figures attention is called to the fact that in the case of iron and steel and metals and metal products the large differences between the second and third years when compared with the first year are due to the fact that in the second year the distribution of accidents under these groups was changed in some instances. Certain experience included under the group of metals and metal products in the first year

was classified in the second and third years under the group iron and steel. If the percentage distributions for these two groups are taken together for each year the relative frequency is shown by the following rates: first year, 18.1 per cent., second year, 16.9 per cent. and third year, 14.9 per cent. With the exception of these two classifications there was no change of basis which would affect the results to any extent.

In view of the fact that this table does not show the relative exposure to accidents for the different years, no conclusions are made in this section as to the trend of frequency other than shown by the table as a record of the magnitude for each industry for each of the years, and the combined experience for the three years.

Although at the present time there are no figures available by which the accident experience being considered may be correlated with the exposure to accidents, some indication of the comparative frequency of tabulatable accidents between industries may be obtained by taking figures compiled by the Massachusetts Bureau of Statistics in connection with manufacturing industries. These figures for calendar years from January to December do not coincide in point of time with the figures of the Board, which cover the period from July to June; also, at the present writing, the bureau's figures showing the number of employees for the year 1914 are not available. For this reason the table given below covers only the first and second years under the Compensation Act. Based on the number of employees in manufacturing industries, the following table gives the number of tabulatable accidents per 100 employees. The number of employees as compiled represents the average number for a year. As previously stated, this does not reflect the number of hours worked, — a factor which in a real unit to measure exposure is important when industrial conditions are such that in different periods there are variations in the number of hours in which factories are being operated. The results as given, however, have value if interpreted in the light of these explanations.

Number of Tabulatable Accidents per 100 Employees.

INDUSTRY.	First Year.	Second Year.
Liquors and beverages,	15.8 (1)	16.5 (1)
Iron and steel,	10.0 (2)	9.5 (2)
Metal and metal products,	9.5 (3)	4.8 (9)
Chemical and allied products,	8.6 (4)	8.8 (3)
Lumber,	8.0 (5)	7.4 (4)
Printing and bookbinding,	6.6 (6)	6.3 (5)
Food and kindred products,	6.2 (7)	6.3 (6)
Paper,	5.2 (8)	5.2 (8)
Clay, glass, etc.,	4.4 (9)	5.8 (7)
Textiles,	4.0 (10)	4.1 (10)
Leather and finished products,	2.4 (11)	2.8 (11)
Clothing,	1.2 (12)	1.1 (12)
Miscellaneous industries,	5.8 (13)	5.2 (13)

Inspection of these figures shows that the frequency rate does not vary to any great extent, considering the nature of the unit employed to measure exposure. In the case of metals and metal products the change from third to ninth position in order of magnitude is due to the change in classification in the second year. If we assume that the position of this group is ninth in the first year, and move up the other groups on this basis, the order for each of the groups is the same in both years, except in the case of the groups paper and clay, glass, etc. In the first year the group paper came before clay, glass, etc., but in the second year the positions were just reversed.

The figures given above for the number of employees and the accident frequency are based on the experience in each industrial group. The combined experience for each year in these manufacturing groups is as follows: in the first year the total number of tabulatable accidents was 31,806, and the number of employees, 608,590. The average number of tabulatable accidents per 100 employees for the group taken together is 5.2. In the second year the total number of tabulatable accidents was 31,512, and the number of employees, 616,927. Based on these figures the average number of tabulatable acci-

dents per 100 employees is 5.1. The rates for the third year, as previously explained, are not shown.

In closing the section on the distribution of accidents by industries the following summary with reference to tabulatable accidents is of some value, although the figures given below are not weighted according to the element of exposure.

The percentage distribution of tabulatable accidents for the three years, divided between manufacturing and non-manufacturing groups, is as follows:—

	First Year (Per Cent.).	Second Year (Per Cent.).	Third Year (Per Cent.).
Total manufacturing,	59.7	60.1	56.6
Total non-manufacturing,	40.3	39.9	43.4

The following tabulation shows the percentage increase or decrease of the second year over the first, and the third year over the second, in three divisions, with the total of each taken as a basis:—

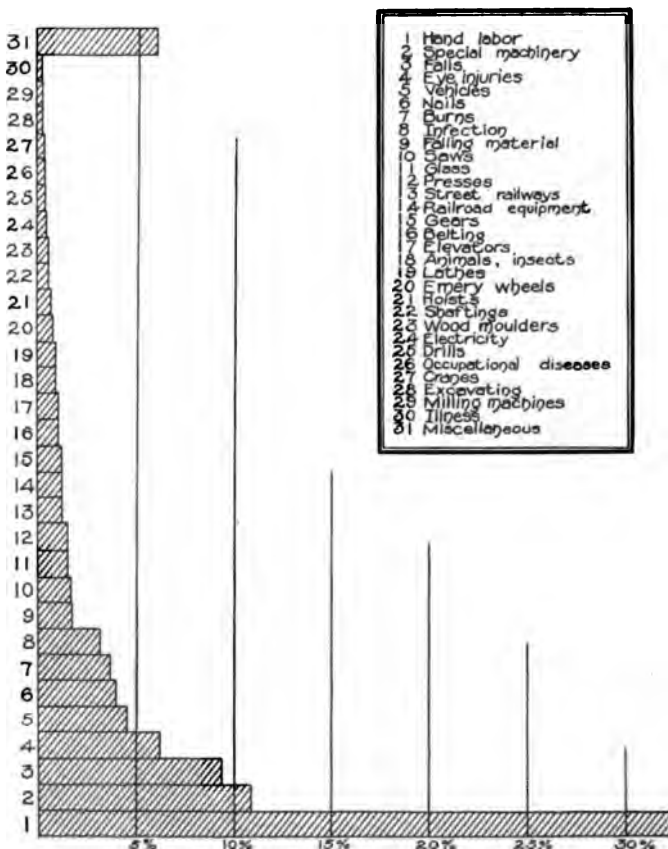
	Second Year (Per Cent.).	Third Year (Per Cent.).
Manufacturing tabulatable,	Decrease .9	Decrease 1.1
Non-manufacturing tabulatable,	Decrease 2.5	Increase 3.2
Total tabulatable,	Decrease 1.6	Decrease 5.1

The first tabulation shows that the relative frequency of accidents in the manufacturing group for the second year was greater than in the first year, but less in the third year, as compared with the second. The relative frequency in non-manufacturing groups decreased in the second year, but increased in the third year.

The second tabulation gives the relative increase or decrease of one year over the other from three different points of view, as indicated by the divisions manufacturing, non-manufacturing and total tabulatable accidents. In each group for each

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year there are relative decreases, except in the case of non-manufacturing accidents there was an increase in the experience of the third year as compared with the second.

CAUSES OF REPORTED FATAL AND NON-FATAL ACCIDENTS.

In this section is shown the distribution of the total number of reported accidents divided into fatal and non-fatal accidents according to causes. Although in preceding sections, wherever possible, the number of tabulatable accidents has been shown, in this and the following sections the accidents are not so classified that this division can be made. The first table summarizes non-fatal accidents according to the frequency of accidents due to general causes.

Frequency of Non-fatal Accidents by Causes.

CAUSE.	TOTAL.		FIRST YEAR.		SECOND YEAR.		THIRD YEAR.	
	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.
Hand labor,	91,660	32.66	29,737	33.15	30,973	33.14	30,950	32.72
Machinery peculiar to indus-tries.	30,495	10.87	11,375	12.68	10,444	10.84	8,676	9.17
Falls,	26,121	9.31	8,417	9.38	8,955	9.30	8,749	9.25
Eye injuries,	17,528	6.25	4,331	4.83	5,563	6.81	6,634	7.01
Vehicles,	12,657	4.51	3,770	4.20	4,422	4.59	4,465	4.72
Nails,	11,185	3.99	3,462	3.86	3,657	3.79	4,066	4.30
Burns,	10,162	3.62	3,319	3.70	3,534	3.66	3,319	3.51
Infection from cuts, etc., .	8,849	3.15	2,102	2.34	3,175	3.30	3,572	3.78
Falling material,	4,689	1.67	1,664	1.86	1,502	1.56	1,523	1.61
Saws,	4,592	1.64	1,579	1.76	1,603	1.66	1,410	1.49
Glass,	4,275	1.52	1,281	1.43	1,478	1.53	1,516	1.60
Presses,	4,251	1.52	1,425	1.59	1,419	1.47	1,407	1.49
Street railways,	3,631	1.29	1,302	1.45	1,284	1.33	1,045	1.10
Railroad equipment, . . .	3,522	1.26	1,230	1.37	1,345	1.40	947	1.00
Gears,	3,415	1.22	1,101	1.23	1,228	1.27	1,086	1.15
Belting,	3,062	1.09	888	.99	1,140	1.18	1,034	1.09
Elevators,	3,055	1.09	1,036	1.16	1,078	1.12	941	1.00
Animals, insects,	2,614	.93	779	.87	866	.90	969	1.02
Lathes,	2,574	.92	767	.86	938	.97	869	.92
Emery wheels,	2,284	.81	650	.73	852	.88	782	.83

Frequency of Non-fatal Accidents by Causes — Concluded.

CAUSE.	TOTAL.		FIRST YEAR.		SECOND YEAR.		THIRD YEAR.	
	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.
Hoists,	1,978	.71	630	.70	704	.73	644	.68
Shafting, set screws, coup- lings, etc.	1,866	.67	481	.54	721	.75	664	.70
Wood molders, shapers, etc.,	1,682	.60	351	.39	708	.74	623	.66
Electricity,	1,418	.50	495	.55	486	.50	437	.46
Drills,	1,267	.45	332	.37	454	.47	481	.51
Occupational diseases, . .	1,157	.41	104	.12	354	.37	699	.74
Cranes,	1,065	.38	306	.34	434	.45	325	.34
Excavating,	769	.27	164	.18	269	.27	336	.36
Milling machines,	756	.27	181	.20	319	.33	256	.27
Illness,	720	.26	290	.32	244	.25	186	.20
Explosions (other than boiler),	626	.22	215	.24	252	.26	159	.17
Assault and fighting, . . .	512	.18	207	.23	170	.18	135	.14
Engines,	468	.16	113	.13	164	.17	181	.19
Calenders,	445	.15	103	.12	205	.21	137	.15
Asphyxiation, drowning, etc.,	292	.10	91	.10	110	.11	91	.10
Metal planers,	247	.09	73	.08	75	.08	99	.10
Portable tools,	128	.05	10	.01	52	.05	66	.07
Playing and fooling, . . .	123	.04	81	.09	30	.03	12	.01
Boiler explosions,	116	.04	36	.04	40	.04	40	.04
Intoxication,	91	.03	56	.06	26	.03	9	.01
Extractors (centrifugal), .	69	.02	11	.01	26	.03	32	.03
Miscellaneous,	14,267	5.08	5,149	5.74	4,093	4.25	5,025	5.31
Total,	280,673	—	89,694	—	96,382	—	94,597	—

In connection with eye injuries, which is not strictly a cause of injury but a type of injury, the following analysis shows the distribution according to the cause: —

Causes of Eye Injuries.

CAUSE.	First Year.	Second Year.	Third Year.	Total.
Belting,	9	24	12	45
Chemicals,	217	318	346	881
Electric flash,	45	76	84	205
Emery wheels,	1,151	2,058	2,032	5,241
Flying particles from hand tools,	511	791	951	2,253
Lubricator and gage glasses,	8	17	6	31
Machine tools,	57	330	713	1,100
Molten metal,	120	222	151	493
Miscellaneous,	2,213	2,727	2,339	7,279
Total,	4,331	6,568	6,634	17,533

In the larger table are shown the absolute distributions for the three years in the aggregate and for each of the years taken separately. The relative frequency for each of these distributions is shown in parallel column. In this section only a general analysis of the figures will be attempted for the purpose of noting any possible tendencies which may be operative. For a more detailed study of the causes of accidents analysis of the tables in the Appendix of the report is necessary. The purpose of this chapter, however, is to make a general survey of the accident experience as tabulated.

The table showing the causes of injuries does not make possible an immediate understanding of the experience, and is intended largely to bring the facts together in compact form, more as a matter of record; also, the possibility of fluctuations, due to other causes than fundamental changes in working conditions, tends to make unpractical too fine a division in the matter of actual figures. For general comparative purposes the tendencies shown by these figures are grouped in the following manner:—

General Direction of Relative Frequency by Causes of Accidents.

Decrease Each Year, or Downward Tendency, Approx- imately Level.	Increase Each Year, or Upward Tendency, Approx- imately Level.	Decrease Second Year, Increase in Third Year.	Increase Second Year, Decrease in Third Year.
Machinery of special in- dustries.	Eye injuries.	Hand labor.	Gears.
Falls.	Vehicles.	Nails.	Belting.
Burns.	Infections.	Miscellaneous, unclas- sified.	Lathes.
Falling material.	Glass.		Emery wheels.
Saws.	Animals, insects, etc.		Shafting, set screws, etc.
Presses.	Drills.		Wood molders.
Street railways.	Occupational diseases.		Cranes.
Railroad equipment.	Excavating.		Milling machine.
Elevators.	Engines.		Explosions (other than boiler).
Hoists.	Metal planers.		Calenders.
Electricity.	Portable tools.		
Illness.	Extractors.		
Assault and fighting.			
Asphyxiation, drown- ing.			
Playing and fooling.			
Boiler explosions.			
Intoxication.			

In considering this table the fact should be noted that the classification is made according to the percentage distributions for each of the three years taken separately. The tendency is different from that stated above in some cases if the absolute numbers are taken as a basis, owing to the differences in the total number of accidents which occurred in the different years. The first column shows those cause groups in which the relative frequency for the three years was in a downward direction, or approximately level. The last column includes those causes in which the relative frequency was higher in the second year, but in which there was a decrease in the third year. From this point of view — namely, the trend at the end of the second year — the first and the fourth columns show a general downward tendency. The second and third columns show those cause groups in which the relative frequency was in the opposite direction, or upward. These facts are merely pointed out

as showing the occurrence of accidents according to the cause, and in a general way the comparative frequency for the three years. Owing to the shortness of the time covered by the experience, and the possible effect of variations in the exposure to accidents and in industrial conditions in the different periods, these tendencies are indicated merely up to the end of the period covered by the experience tabulated in this report.

The next table shows fatal cases according to the cause of the accident. As in non-fatal cases the distributions are shown by actual frequency and according to the relative frequency based on the total for each year.

Frequency of Fatal Accidents by Causes.

CAUSE.	TOTAL.		FIRST YEAR.		SECOND YEAR.		THIRD YEAR.	
	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.
Railroad equipment, . . .	265	19.6	119	25.1	86	16.9	60	16.2
Falls,	249	18.4	66	13.9	101	19.8	82	22.2
Vehicles,	138	10.2	43	9.1	48	9.4	47	12.7
Elevators,	89	6.5	33	7.0	30	5.9	26	7.0
Hand labor,	85	6.3	37	7.9	24	4.7	24	6.5
Electricity,	67	4.9	25	5.3	28	5.5	14	3.8
Burns,	50	3.7	15	3.2	15	3.0	20	5.5
Asphyxiation, drowning, etc.,	46	3.4	10	2.1	25	4.9	11	3.0
Street railways,	44	3.3	20	4.2	18	3.5	6	1.6
Infections from cuts, . . .	37	2.7	5	1.1	23	4.5	9	2.4
Shafting, set screws, coup- lings, etc.	23	1.7	9	1.9	11	2.2	3	.8
Hoists,	30	2.2	4	.8	16	3.1	10	2.7
Machinery peculiar to special industries.	30	2.2	7	1.5	11	2.2	12	3.2
Excavating,	28	2.1	14	3.0	5	1.0	9	2.4
Cranes,	21	1.6	11	2.3	7	1.4	3	.8
Explosions (other than boiler),	20	1.5	4	.8	14	2.8	2	.5
Falling material from over- head.	20	1.5	8	1.7	6	1.2	6	1.6
Animals, insects, etc., . .	16	1.2	9	1.9	3	.6	4	1.1
Occupational diseases, . .	15	1.1	2	.4	10	1.9	3	.8
Belting,	14	1.0	6	1.3	3	.6	5	1.4
Saws,	11	.8	4	.8	5	1.0	2	.5
Illness,	5	.4	3	.6	2	.4	-	-
Portable tools,	5	.4	-	-	1	.2	4	1.1

Frequency of Fatal Accidents by Causes — Concluded.

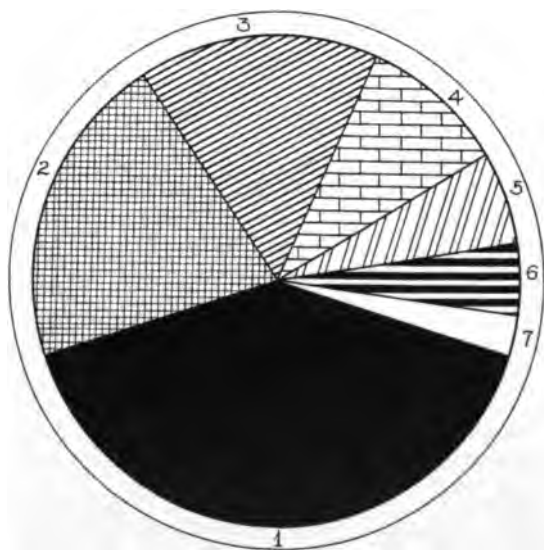
CAUSE.	TOTAL.		FIRST YEAR.		SECOND YEAR.		THIRD YEAR.	
	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.	Num-ber.	Per Cent.
Presses,	5	.4	2	.4	2	.4	1	.3
Gears,	4	.3	2	.4	1	.2	1	.3
Assault and fighting, . .	2	.1	1	.2	-	-	1	.3
Emery wheels,	2	.1	2	.4	-	-	-	-
Engines,	2	.1	-	-	-	-	2	.5
Wood molders, shapers, etc.,	2	.1	1	.2	1	.2	-	-
Boiler explosions,	1	.1	-	-	1	.2	-	-
Eye injuries,	1	.1	-	-	1	.2	-	-
Glass,	1	.1	1	.2	-	-	-	-
Intoxication,	1	.1	-	-	1	.2	-	-
Miscellaneous,	24	1.8	11	2.3	10	1.9	3	.8
Total,	1,353	-	474	-	509	-	370	-

Without going into a complete analysis of this table, consideration of a few of the groups will suffice to point out some of the more significant changes or tendencies. Most noticeable among these is the decrease, both absolute and relative, in the number of fatal cases caused by railroad equipment. In the case of falls there was in each year an increase based on the relation which the frequency of such cases bears to the total for each of the years. In the third year, although there was an increase on a relative basis, in absolute figures there was a decrease over the second year, but an increase when compared with the first year. In connection with falls the fact is worthy of comment and serious consideration that except in the first year the number of fatal accidents due to this cause exceeded the number of fatalities due to railroad equipment.

For the purpose of studying this group of causes in which the fatal accident frequency is high, the following tabulation is given to show in greater detail the type of fall for each of the years: —

FATAL ACCIDENTS DUE TO FALLS

SEVEN LEADING KINDS OF FALL



- | | |
|-----------------------------|--------------------------|
| 1 From scaffolding | 4 Into holes, pits, etc. |
| 2 From portable ladders | 5 Down stairways |
| 3 From permanent structures | 6 From poles |
| 7 Slipping on floor level | |

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Distribution of Fatal Accidents due to Falls.

Kind of Fall.	First Year.	Second Year.	Third Year.	Total.
From scaffolding,	16	28	22	66
From or with portable ladders,	6	10	9	25
From permanent structures,	4	18	12	34
Into holes, pits, etc.,	1	5	10	16
Down stairways,	1	3	6	10
From poles,	-	3	5	8
Slipping on floor level,	-	2	2	4
Miscellaneous,	28	32	16	86
Total,	66	101	82	249

Considering the totals for the three years, the highest number of falls is seen to be in connection with scaffolding, — 26.5 per cent. of the total. The percentage distributions of the other groups are as follows: from permanent structures, 13.7 per cent.; from or with portable ladders, 10 per cent.; into holes, pits, etc., 6.4 per cent.; down stairways, 4 per cent.; from poles, 3.2 per cent.; slipping on floor level, 1.6 per cent.; and various miscellaneous unclassified causes, 34.6 per cent.

These two groups of causes — railroad equipment and falls — have been chosen for special mention, first, because the two groups taken together compose about 38 per cent. of the total number of fatal cases, and second, because the first group shows a comparative decrease in the relative frequency for the three years, and the other group — falls — shows a comparative relative increase. In the case of the first group, showing the decrease, it is not possible to prove by the experience here taken that this is due to any one special factor, but the assumption that it is very closely related to the "safety first" movement, taken up actively by some of the steam railroads, does not seem unwarranted. In connection with falls the aggregate seriousness of the injuries and the upward tendency make this problem one which should receive serious study and the application of some positive method for reducing the number of accidents due to this cause.

Although all the causes of accidents require study, the purpose of this section is to point out only some of the main tendencies.

The preceding part of the chapter has dealt with comparative frequency of accidents in the first three years of the act, in connection with accident magnitude, duration of disability, insurance payments, specified injuries, industries and causes. The remainder of the chapter is devoted to similar comparative studies in connection with the following divisions: sex, age, wage, basis of wage payment, hour of the day at which the injury occurred, and the day of the week.

SEX.

The first distribution shows the number of males and females injured.

Distribution of Non-fatal Accidents by Sex.

Sex.	First Year.	Second Year.	Third Year.	Total.
Males,	82,154	87,613	86,069	255,836
Females,	7,540	8,769	8,508	24,817
Total,	89,694	96,382	94,597	280,673

The distribution of these cases by per cents. of the total for each period is as follows: —

Relative Distribution of Non-fatal Accidents by Sex (Per Cent.)

Sex.	First Year.	Second Year.	Third Year.	Total.
Males,	91.6	90.9	91.0	91.2
Females,	8.4	9.1	9.0	8.8
Total,	100.0	100.0	100.0	100.0

These figures show a fairly level distribution between the different years, and have no special significance other than the fact that out of the total number of accidents about 9 per cent. occur among women. According to the figures of the Bureau of Statistics for the year 1913, 31.5 per cent. of the total num-

ber of employees engaged in manufacturing industries were women. There are no figures available to show the number of women engaged in other than manufacturing industries, but the whole matter of the distribution of accidents among males and females as considered here is largely related to the factor of the relative number exposed to accidents, and is shown as a record of the actual frequency rather than as an analysis of the occupational hazards to which women are exposed in their work.

In connection with fatal cases for the three years, out of a total of 1,353 such accidents, 8 were women.

WAGES.

The next table gives the distribution of non-fatal accidents by wage groups. As shown by the table the classification in the first year was not as detailed as in subsequent years, so that for a three-year comparison only the larger groups may be considered. The second and third years, however, may be compared on the more complete basis.

Distribution of Non-fatal Accidents by Wage Groups.

WAGE GROUPS.	First Year.	Second Year.	Third Year.	Total.
\$6 and less.	16,620	5,171	4,579	43,374
6 01 to \$7 00.		3,268	3,040	
7 01 to 8 00.		5,468	5,228	
8 01 to 9 00.		7,941	7,809	
9 01 to 10 00.	53,377	7,560	7,283	166,631
10 01 to 11 00.		8,471	8,072	
11 01 to 12 00.		12,068	12,746	
12 01 to 13 00.		4,670	4,410	
13 01 to 14 00.	13,627	8,075	7,843	48,551
14 01 to 15 00.		7,782	7,913	
15 01 to 16 00.		3,792	3,490	
16 01 to 17 00.		4,085	3,932	
17 01 to 18 00.	13,627	5,029	5,285	17,212
18 01 to 19 00.		1,612	1,556	
19 01 to 20 00.		3,194	2,949	

Distribution of Non-fatal Accidents by Wage Groups — Concluded.

WAGE GROUPS.	First Year.	Second Year.	Third Year.	Total.
\$20 01 to \$21 00,	6,070	1,907	1,833	8,460
21 01 to 22 00,		1,022	1,139	
22 01 to 23 00,		496	523	
23 01 to 24 00,		842	856	
24 01 to 25 00,		1,272	1,438	
Over \$25,		2,148	2,671	
Total,	89,694	94,382	94,597	280,673

The next table gives similar frequency distributions by per cents.

Percentage Distributions by Wage Groups in Non-fatal Cases.

WAGE GROUPS.	First Year.	Second Year.	Third Year.	Total.
\$6 and less,	18.5	5.4	4.9	15.5
6 01 to \$7 00,		3.4	3.2	
7 01 to 8 00,		5.6	5.5	
8 01 to 9 00,		8.3	8.2	
9 01 to 10 00,		7.9	7.7	
10 01 to 11 00,	59.5	8.8	8.5	59.4
11 01 to 12 00,		13.1	13.5	
12 01 to 13 00,		4.8	4.7	
13 01 to 14 00,		8.4	8.3	
14 01 to 15 00,		8.1	8.4	
15 01 to 16 00,	15.2	3.9	3.7	17.3
16 01 to 17 00,		4.2	4.2	
17 01 to 18 00,		5.2	5.6	
18 01 to 19 00,		1.7	1.6	
19 01 to 20 00,		3.3	3.1	
20 01 to 21 00,	6.8	1.9	1.9	7.8
21 01 to 22 00,		1.1	1.2	
22 01 to 23 00, . . . . .		.5	.6
23 01 to 24 00, . . . . .		.9	.9
24 01 to 25 00,		1.3	1.5	
Over \$25,		2.2	2.8	
Total,	100.0	100.0	100.0	100.0

No special analysis of these figures is considered necessary for the purposes of this chapter, as the changes in distribution are, for the most part, not great, and a certain amount of fluctuation is naturally to be expected. The fact is interesting to note that, if we take the aggregate distributions for the three years as an average, 74.9 per cent. of the cases have an average weekly wage of \$15 or less. This is the wage limit which in compensable cases controls the maximum weekly compensation of \$10. In 25.1 per cent. of the cases wages are in excess of \$15, and in these cases, when compensation is payable, the amount is limited to the maximum of \$10 per week. From this point, therefore, as wages increase the rate of weekly wages payable as compensation decreases from 66 $\frac{2}{3}$ per cent. At \$20 per week the rate of weekly wages is 50 per cent., at \$25 per week the rate has become 40 per cent., and at \$30 the rate is 33 $\frac{1}{3}$ per cent.

The next table shows a summary of wage group distributions in fatal cases.

Absolute and Relative Distribution by Wage Groups in Fatal Cases.

WAGE GROUPS.	NUMBER.				PER CENT.			
	First Year.	Second Year.	Third Year.	Total.	First Year.	Second Year.	Third Year.	Total.
\$8 and less, . . .	27	33	23	83	5.7	6.5	6.2	6.1
8 01 to \$15 00, . .	288	294	212	794	60.8	57.8	57.3	58.7
15 01 to 20 00, . .	102	107	77	286	21.5	21.0	20.8	21.1
Over \$20, . . .	57	75	58	190	12.0	14.7	15.7	14.1
Total, . . .	474	509	370	1,353	100.0	100.0	100.0	100.0

The one noticeable fact which stands out in connection with these figures is the difference between fatal cases and non-fatal cases in the wage groups over \$15. In fatal cases for the three years combined, 35.2 per cent. are in the groups over \$15. In non-fatal cases the similar figure is 25.1 per cent. This indicates that in those industries in which the chance of fatal injuries is greater the wages are higher. In this connection attention is also called to the fact that dependents in such cases when insured receive only the maximum of \$10 per week, and as previously noted this limit decreases the rate of 66 $\frac{2}{3}$

per cent., payable as weekly compensation, as the rate of wages increases. For the group \$8.01 to 15 the distribution is about the same as in non-fatal cases, and in the group \$8 and less the number is relatively much smaller than in non-fatal cases. Based on the totals for three years, in 35 per cent. of the cases wages are in excess of \$15. In such cases when there is total dependency \$10 per week only is payable as weekly compensation, and not two-thirds of the average weekly wage.

In connection with the preceding tabulation on the distribution of accidents by wage groups this section shows the frequency of accidents according to the basis of wage payments, that is, time or piece rate.

Frequency of Non-fatal Accidents by Basis of Wage Payments.

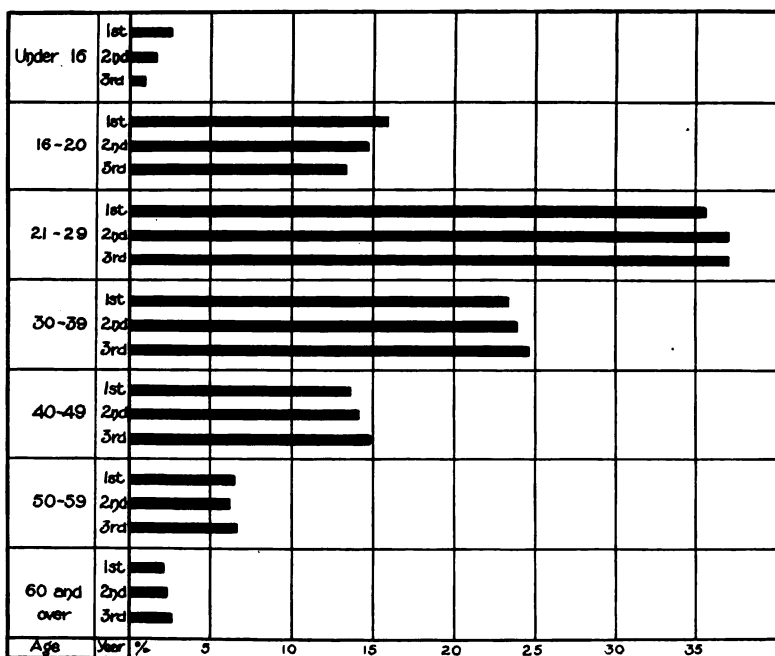
BASIS OF PAYMENT.	NUMBER.				PER CENT.			
	First Year.	Second Year.	Third Year.	Total.	First Year.	Second Year.	Third Year.	Total.
Time,	79,482	80,828	82,296	239,606	85.3	83.9	87.0	85.4
Piece,	12,212	15,554	12,301	41,067	14.7	16.1	13.0	14.6
Total,	89,694	96,382	94,597	280,673	100.0	100.0	100.0	100.0

Differences in the relative distribution of time and piece workers are probably dependent on the relative exposure to accidents of these two groups. Generally speaking, about 85 per cent. of the injuries occur among time-workers and 15 per cent. among pieceworkers.

AGE.

The next tabulation gives the ages of non-fatally injured persons.

RELATIVE FREQUENCY OF NON-FATAL CASES BY AGES



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Absolute and Relative Frequency of Non-fatal Cases by Ages.

Age.	NUMBER.				PER CENT.			
	First Year.	Second Year.	Third Year.	Total.	First Year.	Second Year.	Third Year.	Total.
Under 16, . .	2,286	1,525	870	4,681	2.5	1.6	.9	1.7
16 to 20, . .	14,285	14,210	12,630	41,125	15.9	14.8	13.4	14.7
21 to 29, . .	31,894	35,678	35,012	102,584	35.6	37.0	37.0	36.5
30 to 39, . .	21,105	23,054	23,287	67,446	23.5	23.9	24.6	24.0
40 to 49, . .	12,269	13,546	14,090	39,905	13.7	14.1	14.9	14.2
50 to 59, . .	5,876	6,114	6,273	18,263	6.6	6.3	6.6	6.5
60 and over, .	1,979	2,255	2,435	6,669	2.2	2.3	2.6	2.4
Total, . .	89,694	96,382	94,507	280,573	100.0	100.0	100.0	100.0

In considering these figures no attempt is made to draw any conclusions as to the chances of accident among persons of different ages, because these figures give no weight to the number of persons of different ages who are employed. As showing the number of persons of different ages who are injured in the course of a year the figures have interest and value. In general, the frequency is fairly level for the different years shown, except in the case of those persons under sixteen years of age. As shown by the table, the number of cases of injury in which the injured person was sixteen years of age or under composed 2.5 per cent. of the total in the year ending June 30, 1913. In the year ending June 30, 1914, this figure was 1.6 per cent., and in the year ending June 30, 1915, the ratio was only .9 per cent. As a possible explanation of this reduction, legislation passed in 1913, affecting the hours of labor of children, is mentioned. Although there are no statistics which will enable real proof of this possibility, in the absence of any other apparent reason than the reduction in the number of children employed, this conclusion is not unwarranted. By this law children under the age of sixteen may not be employed anywhere in the Commonwealth more than forty-eight hours per week. In addition to this provision cities and towns may establish continuation schools and require that children under this age attend such schools four hours per week during working hours, which has the effect in such case of limiting the actual working period

to forty-four hours per week. So far as is known Boston is the only city or town which has put into operation this latter provision. The forty-eight hour law, however, is compulsory for the entire State. The effect of this law would be to reduce the exposure of children under sixteen years of age. Taking the first year of the act as a basis, Boston contributed about one-quarter of all the injuries to children under this age. If the reduction in the number of accidents were due to the reduction in the number of working hours there would be a still greater reduction in the city of Boston, where the number of hours is limited to forty-four.

The next table shows the age group distribution of fatal cases. These figures are given merely for the purpose of presenting the facts as they have occurred, without trying to account for the relative frequency in the different groups, which is almost entirely a matter of exposure.

Absolute and Relative Distribution of Fatal Cases by Age Groups.

AGE GROUPS.	NUMBER.				PER CENT.			
	First Year.	Second Year.	Third Year.	Total.	First Year.	Second Year.	Third Year.	Total.
Under 16, . . .	4	3	2	9	.9	.6	.5	.7
16 to 20, . . .	18	35	18	71	3.8	6.9	4.9	5.2
21 to 29, . . .	135	107	85	327	28.5	21.0	23.0	24.2
30 to 39, . . .	113	113	79	305	23.8	22.2	21.4	22.5
40 to 49, . . .	83	119	76	278	17.5	23.4	20.5	20.5
50 to 59, . . .	66	81	73	220	13.9	15.9	19.7	16.3
Over 60, . . .	55	51	37	143	11.6	10.0	10.0	10.6
Total, . . .	474	509	370	1,353	100.0	100.0	100.0	100.0

In general, these figures show approximately a level distribution between the different years. The totals for the three years combined indicate the highest relative frequency in the age groups between 21 and 49 years.

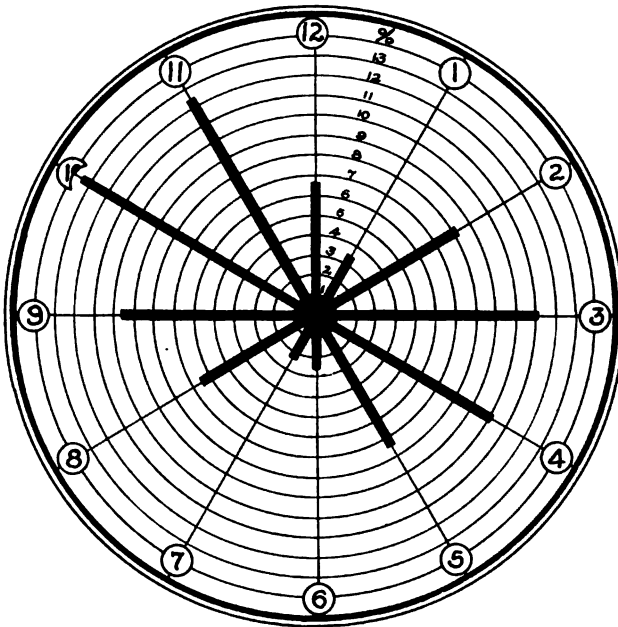
HOURS OF DAY.

In tabulating the hours of the day at which injuries occur as given below, only the frequency in non-fatal cases is given, as there does not seem to be any particular reason for considering

NON-FATAL ACCIDENTS

PERCENTAGE FREQUENCY BY HOURS

7 AM - 6 PM



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the fatal cases in this connection. Such experience is too limited in amount, and might just as well be included with the other, or not shown at all.

Frequency of Non-fatal Accidents by Hours of the Day.

Hour of the Day.	First Year.	Second Year.	Third Year.	Total.	Per Cent. of Total.
Morning:—					
1.	582	205	174	561	.2
2.	205	287	319	811	.3
3.	245	303	291	839	.3
4.	299	320	311	930	.3
5.	286	345	318	949	.3
6.	399	492	498	1,379	.5
7.	2,111	2,220	2,014	6,345	2.4
8.	5,838	6,376	5,902	18,116	6.5
9.	8,623	9,203	9,341	27,167	9.7
10.	11,810	12,940	13,096	37,846	13.5
11.	10,924	12,204	11,798	34,926	12.4
12.	5,979	6,459	6,211	18,649	6.6
Afternoon:—					
1.	3,345	3,357	3,246	9,948	3.5
2.	7,210	7,552	7,529	22,291	8.2
3.	9,989	10,440	10,753	31,182	11.1
4.	9,148	9,776	9,549	28,473	10.1
5.	6,922	7,224	6,892	21,038	7.5
6.	2,609	2,638	2,420	7,667	2.7
7.	870	786	746	2,402	.9
8.	843	867	895	2,605	.9
9.	685	727	735	2,147	.8
10.	531	655	548	1,734	.6
11.	425	476	504	1,405	.5
12.	216	230	217	663	.2
Total,	89,694	96,382	94,597	280,673	100.0

In commenting on these figures comparisons between the different years are not considered necessary other than to say that in the different years the peaks of frequency occur at the same hours of the day, namely, at 10 and 11 in the morning, and at

3 and 4 in the afternoon. Based on the totals for the three years the relative distributions at these peaks are as follows: in the morning, 13.5 per cent. of the accidents occurred at the 10 o'clock group, and 12.4 per cent. at the 11 o'clock group. In the afternoon the percentage distributions at 3 and 4 o'clock were, respectively, 11.1 and 10.1 per cent. In each case the per cent. is figured on the total number of accidents, both morning and afternoon, for the three years in the aggregate.

This experience in general coincides with that of other States and countries, although in some industries there is not always this same relationship, owing partly to the nature of the industry, or, in the case of smaller individual studies, perhaps, because of the insufficiency of the amount of the experience. In general, however, there is no need to devote much time to the proof of the occurrence of this tendency, which is fairly well known and established. Various reasons have been assigned in explanation of these peaks of accident frequency, one of which has been that the element of fatigue was a causative factor. On the other hand, the same figures have been interpreted to disprove the theory of fatigue, on account of the reduction in the number of accidents toward the end of the working day.

Obviously the hour of the day in and of itself is not a factor in the causation of accidents, but the fact that certain hours of the day represent a certain number of hours during which, on the average, an employee has worked without having the day broken up by a period of rest may be a very strong factor. Interpreting the figures given above on this basis in general would mean that the peaks of accident frequency occur at the end of work periods of three or four hours in length. In this section space will not permit any further discussion of these possibilities, but in another chapter, "Fatigue as a Possible Cause of Industrial Accidents," is given a summary and commentary on an interesting and valuable research made on this topic by the British Association for the Advancement of Science. This study throws considerable light on the subject, and is based on an extended analysis of various data.

DAYS OF WEEK.

This section deals with the day of the week on which injuries occur. The tabulation shows the combined experience for all industries in non-fatal cases.

Absolute and Relative Frequency of Non-fatal Accidents by Days of the Week.

DAY OF THE WEEK.	NUMBER.				PER CENT.			
	First Year.	Second Year.	Third Year.	Total.	First Year.	Second Year.	Third Year.	Total.
Monday, . . .	16,309	16,463	16,128	48,900	18.2	17.1	17.1	17.4
Tuesday, . . .	15,465	16,691	16,299	48,455	17.2	17.3	17.2	17.3
Wednesday, . . .	14,871	16,601	16,127	47,599	16.6	17.2	17.1	17.0
Thursday, . . .	15,014	16,044	16,108	47,166	16.7	16.7	17.0	16.8
Friday, . . .	15,295	16,653	16,163	48,111	17.1	17.3	17.1	17.1
Saturday, . . .	11,217	12,360	12,172	35,749	12.5	12.8	12.9	12.7
Sunday, . . .	1,523	1,570	1,600	4,693	1.7	1.6	1.6	1.7
Total, . . .	89,694	96,382	94,597	280,673	100.0	100.0	100.0	100.0

These figures show a fairly even regularity for the different years here being considered. In the first year of the act the highest frequency occurred on Mondays, but in the second and third years of the act the largest number of accidents occurred on Tuesdays. Most experience based on any considerable number of cases shows that the highest day is on Monday, as in the experience of Massachusetts for the first year.

This change from Monday to Tuesday in the second and third years of the act may be related to the element of exposure, but at the present time there is not sufficient available data on which to make any definite conclusions in relation to this change in the peak of accident frequency.

In connection with these figures the fact should be remembered that this position of greatest magnitude on Monday or Tuesday is not the experience in each industry taken separately. Only in the aggregate experience for all industries combined is this tendency a true one.

In conclusion, the fact is worth mentioning that the figures showing Massachusetts experience for three years are of value as indicating the principal tendencies at work in this period.

There is needed, however, the development of considerably more experience to make possible a more minute and dependable tabulation of facts. As soon as time will permit, the Board hopes to revise a good many of the statistical classifications and groupings, and also to check up and retabulate the figures according to the changes which have developed in the course of time.

SETTLEMENTS IN FATAL INJURY CASES BY NONINSURED EMPLOYERS.

Convincing proof of the advantages to be gained by employees under the Workmen's Compensation Act is shown in the appendix in the tabular presentation of the settlements made in noninsured fatal cases as compared with the amounts due in similar cases under the act. It is very gratifying to note that each year there are fewer fatal cases in which the employers are not insured under the act, and obviously a greater number of dependents who receive a settlement in proportion to the monetary loss sustained in the death of the employee, under the provisions of the Workmen's Compensation Act. During the first year 39 per cent. of the total number of fatal cases reported were not covered by insurance under the act, 27 per cent. were not insured for the second year, and only 22 per cent. were uninsured for the year ending June 30, 1915. The Board has endeavored to obtain data in regard to all of these cases, but on an average, information has been available in only 50 per cent. of the cases each year. The material gathered shows a noticeable increase in the percentage of settlements made in the third year, in which 65.8 per cent. of the cases were adjusted. Settlements were made in 48.8 per cent. and 41.3 per cent. of the cases for the first and second years, respectively.

The result of the Board's investigation of 41 fatal cases in which the employers were not insured during the year ending June 30, 1915, is shown in Table XVIII. The total amount paid out in settlements during this period was \$34,187.30; the amount which would have been due had these employers been insured is \$110,470. This is more than three times the amount actually paid. In 30 cases widows and children were left, 8 were cases of no dependency, and in 3 cases there were persons partially dependent upon the deceased employees. There has been an increase over the past two years in both the average age and the average wage of the employees. The average age is forty-one years and the average weekly wage is \$16.70. The same lack of uniformity in the settlements that prevailed in the two previous years is apparent in the third

year. In 6 cases the amount of the settlement was in excess of the amount due under the act. In 4 of these cases there were, strictly speaking, no dependents; one was a case of partial dependency; and the dependent in the remaining case was a widow whose husband had worked for low wages. In all the other cases, when there was any settlement at all, it was very much lower than the amount which would have been due under the act.

Since Oct. 1, 1914, dependents of fatally injured employees whose employers were insured under the act have received a weekly payment of $66\frac{2}{3}$ per cent. of the average weekly wage of the deceased employee, as compared with 50 per cent. under the law previously in force, and these payments are to be continued for a period of five hundred weeks from the date of injury, although the total amount may not exceed \$4,000. Previous to this date, the aggregate amount which the dependents could receive was \$3,000, and the payments were made for three hundred weeks only. It might, therefore, be expected that the amount due in analogous cases under the act would be much greater in comparison with the actual payments made in noninsured cases during the year ending June 30, 1915, than in previous years. As a matter of fact, however, with the increase in payments under the Workmen's Compensation Act the average amount paid per fatal case for employer's liability outside the act in the cases reported to the Board during the third year also has been much larger. The average payment per case the first year was \$701.42 as against \$1,900.57 which would have been due under the act; the second year \$478.46 was paid as against \$1,631.43 which would have been paid if the employers were insured; the third year \$1,266.20 was paid per case, whereas the average amount due under the act would have been \$2,694.

This increase in the percentage of settlements and also in the average amount paid per case in noninsured cases may indirectly be attributed to the underlying influence of the Workmen's Compensation Act and the growing acquaintance of the mass of the people with its provisions. The act is generally regarded as applying to those whose employers are subscribers; but while these employees receive the chief bene-

fits, the act indirectly benefits the employees whose employers are not insured, inasmuch as the three defences of negligence of employee, negligence of a fellow workman, and assumption of the risk of injury have been denied to the employer. Most of the settlements here considered were made directly with the employers without recourse to the courts. In the average workingman's family the death of the breadwinner often causes immediate financial distress. This circumstance, together with the delay generally associated with lawsuits and the cost involved, is often an important factor in the decision of the dependents to forego litigation and to accept a small amount in settlement of their claims.

EFFECT OF THE COMPENSATION ACT ON COURT WORK AND EXPENSES OF TRIAL.

One of the results of the adoption by the Commonwealth of the Workmen's Compensation Act was to remove from the courts the greater part of the work and expense entailed by the trial of cases previously brought under the Employers' Liability Act. The provisions of chapter 751 of the Acts of 1911, "An act relative to payments to employees for personal injuries received in the course of their employment and to the prevention of such injuries," went into effect on the first day of July, 1912. The scope of this act was later extended by chapter 807 of the Acts of 1913, entitled "An act to provide for compensating certain public employees for injuries sustained in the course of their employment." This act provided for the payment to laborers, workmen and mechanics in the employ of the Commonwealth, and the several counties, cities and towns of the Commonwealth, the same benefits for injuries provided in chapter 751, Acts of 1911. The act of 1913, as applying to the employees of the Commonwealth, took effect on June 16, 1913, and was accepted by the counties of the State at the November elections in 1913, and by the great majority of the cities and towns at the annual elections and meetings in December, 1913, and in March and April of 1914. Since suits for damages under the Employers' Liability Act may be entered any time within a year after the occurrence of an injury, the full effect of the Compensation Act on the number of cases entered in the courts did not become apparent until some time after the act became effective, and still further after the act of 1913 became operative.

In this chapter an attempt is made to estimate the effect of the Compensation Act upon the work and expenses of the courts, and what saving in court expenses, if any, has been made to the Commonwealth and the counties through the passage of these two acts, and the amendments thereto. In this connection the fact should be remembered that the expenses to employees in court proceedings previous to the passage of these acts was very large, but under the working of the Compensation Act the expense to employees in most cases is nothing.

In making this study the fact is perhaps obvious that although the Compensation Act has taken some work from the courts, and to that extent there may be said to be a saving in money, such saving is not necessarily one in actual money unless there has been an actual reduction in expenses, or any increase in work outside of suits for industrial accidents has been offset in cost by the saving effected by the Compensation Act. At any rate, any saving in cost, if only theoretical, reflects a speeding up in the work of the courts in reaching cases on the docket. Certain expenses of the courts are of the nature of fixed charges, and would be affected only when the work of trying cases had increased to the point where an additional expenditure would be necessary. Considering, however, that the work of the courts would probably have increased, and to a certain extent the Compensation Act has relieved the courts of part of this work, it is fair to assume a saving in the amount of the work, and to state this saving in terms of money, with the understanding that the method has limitations in accuracy.

The following table shows the figures on which is based the estimate of the possible saving in the expenses of civil cases in the courts for a year, after the Compensation Act had been in operation sufficiently long to have the effect reflected in the work of the courts: —

Summary of Data used in estimating Saving in Expenses.

Estimated expenses in civil jury cases in 1914, . . .	\$663,421.54
Number of jury case trial days in 1914, . . .	2,665½
Average cost per trial day, . . .	\$248.89
Estimated saving in number of cases in 1914, . . .	545
Average number of days per case, . . .	1.1

Estimated saving in the expenses of jury cases in civil sessions
for a year (product of the three last items), . . . \$149,209.55

As shown by this table the estimated saving in the number of cases which might have been tried in the Superior Court, if the Compensation Act had not been operative, in 1914 was 545. In terms of money the saving to the Commonwealth and the counties in the trial of cases is approximately \$150,000.

Before showing the figures on which this estimate is based, some explanation of the sources of information is advisable.

A considerable number of cases previously brought were in the police, district and municipal courts, but it is impossible to obtain reliable statistics as to the exact number. The greater part of the cases, and the ones entailing the greater expense to the counties and to the Commonwealth, were those brought in the jury sessions of the Superior Court. These cases were all cases of tort. Here, again, there is difficulty in determining the number of cases brought under the Employers' Liability Act in the Superior Court, but figures are available showing the number of jury cases annually brought in the Superior Court of the Commonwealth.

The figures shown below were taken from the records of the clerks of the various courts, and in cases in which it was necessary to make estimates for the purpose of arriving at basic facts the judgment of the court officers was taken. In figures showing the expenses of administration, building charges, including light, heat, and other similar charges, were not included. The figures include the cost of juries, the daily fees of certain court officers, costs of supplies, and the fixed salaries of judges, clerks and their assistants. In so far as possible there were eliminated those costs which only in a very general way might be said to vary in any degree with the amount of work performed in the trial of cases. Of course the fixed salaries do not vary directly with the daily program of work, but any increase in the amount of work of the courts is one of the factors determining the addition of new members to the bench and in increasing the number of clerks. Salaries and fees of those who receive remuneration at the rate of a certain amount per day will fluctuate according to the amount of work in the courts.

The following table shows the number of cases tried in the civil sessions of the Superior Court for the years 1911 to 1914:—

Number of Cases tried in the Superior Court.

YEAR.	Jury Cases tried.	Increase or Decrease, (+) or (-).	Jury-waived and Equity Cases tried.
1911.	2,229	-	-
1912.	2,527	+298	
1913.	2,708	+181	-
1914.	2,408	-306	1,065

In studying this table the fact should be noted that the Compensation Act went into effect on July 1, 1912, and the end of the first year under the act was at June 30, 1913. In addition to this, the act was not extended to employees of State, cities and towns until June, 1913, and later, according to the date when the cities, towns and counties voted at the annual elections as to whether the provisions of the act should be accepted. Also, by the rule that under the Employers' Liability Act suit might be entered any time within a year after the occurrence of an injury, there would be naturally a considerable number of cases entered which would not come to trial until some time after the Compensation Act had been operative. Figures, showing the number of jury cases entered, denoted an increase in the year 1912 over the year 1911 of 13.3 per cent.; in the year 1913 over 1912, the increase was 13.6 per cent.; and in the year 1914 there was a decrease over the preceding year of 4.3 per cent. These figures are shown merely to indicate the tendency in the matter of entering cases after the Compensation Act had been in effect for some time.

In the table given above the fact is seen that the number of jury cases tried showed an increase each year over the preceding year, except in the year 1914, when there was a decrease. If we assume that the normal increase in the number of cases tried in this period, if the Compensation Act were not in effect, may be represented by the average increase of 1912 and 1913, the increase is about 240 cases. This increase is probably conservative, owing to the fact that the effect of the Compensation Act would tend to depress the amount of the increase to a certain extent in the year 1913. Since there was an actual decrease of 305 cases in the year 1914, when an increase might have been expected, the decrease due to the effect of the act in the year 1914 may be assumed to be the sum of the average normal increase and the actual decrease, or 545 jury cases tried. Practically none of the equity or jury-waived cases come under the Employers' Liability Act, so that the reduction in the number of jury cases tried is some indication of the decrease in the number of cases brought under the Employers' Liability Act.

The next table shows the number of days consumed in the trial of jury cases.

Number of Jury Case Days and Average Number of Days per Case.

YEAR.	Days in Trial Cases.	Average Days per Case.
1911,	2,362½	1.06
1912,	2,806½	1.11
1913,	2,858	1.06
1914,	2,655½	1.11

This table shows that the average number of days consumed in the trial of a jury case is fairly dependable, and may be used in ascertaining the approximate saving in the number of trial days as a result of the Compensation Act in the year 1914.

In considering the expenses of the court it will be necessary to introduce further figures on civil cases other than jury cases in order to make the proper division in the expenses of the court which are not otherwise shown. In the 1,055 jury-waived and equity cases shown in the second table of the chapter there were 656 trial days. The total number of trial days in all civil cases was, therefore, 3,311½. The number of days consumed in the trial of jury cases in the year 1914 is about 80 per cent. of this total.

In connection with the court expenses shown below, the following explanation will be of some value in interpreting the figures. In all the counties of the Commonwealth the salaries of judges and their traveling expenses are not shown separately for criminal and civil cases. Salaries of clerks and their assistants are divided between criminal and civil sessions in Suffolk county, but not in the other counties. All other direct expenses, outside of those just mentioned, in all counties are kept separately, so that the cost of civil cases may be determined directly. For the purpose of making the division between civil and criminal cases, 60 per cent. of the cost is taken as chargeable to the former type of case when the division is not otherwise shown. This estimate is based on the judgment of those familiar with the work of the courts. After determining the approximate expenses chargeable to civil cases, a further deduction of 20 per cent. is made on account of equity

and jury-waived cases. This estimate is based on the proportion which the number of days consumed in such cases bears to the total number of civil case trial days.

Expenses Chargeable to the Trial of Civil Cases in 1914.

Salaries of justices and traveling (60 per cent. of total),	\$143,100 00
Salaries of clerks and assistants (not Suffolk, 60 per cent. of total),	69,860 87
Salaries of clerks and assistants (Suffolk County),	94,502 25
Other running expenses in civil cases,	521,813 80
Total,	\$829,276 92
Estimate (80 per cent. of time spent in jury cases),	\$663,421 54

Dividing this amount by the number of days consumed in jury cases tried, 2,665½, gives an average cost per trial day of \$248.89. In the year 1914 the average number of days per jury case was about 1.1, and the estimated saving in the number of cases was 545. The product of these three figures gives the estimated saving in the expenses of such cases of \$149,209.55, or, in round numbers, \$150,000.

Obviously, in making an estimate of this sort there is involved a considerable amount of guesswork, but in the absence of any precise figures by which to measure absolutely the increases in cases in no way affected by the Compensation Act, and the actual decrease in the number of compensation cases which otherwise would have been tried in the Superior Court, these figures have a certain interest on the understanding that the figure shown above is only an estimate, and the saving may be only in part an actual one.

THE BOARD'S INTERPRETERS.

Many cases have come to the attention of the Industrial Accident Board which show that certain interpreters were exploiting for their own benefit injured employees and their dependents who were unable to speak the English language and thus transact business intelligently with this office.

Certain so-called "foreigners" refused to accept compensation, or sign agreements making effective their rights under the Workmen's Compensation Act, unless interpreters whom they engaged advised them that this was the proper course to follow. In many instances employees would not transact any business, either with the Board or the insurance company, unless interpreters were available and were present to give them advice. Investigation by the Board developed the fact that the cost of this interpreting service was excessive, and experience has shown that much of the accompanying about of employees by the professional interpreter was unnecessary. Every precaution was taken by the Board to regulate the matter of the fees charged, so that employees would not be taken advantage of unduly, but the prevailing impression seemed to be that a larger proportion of the compensation than need be found its way into the hands of these interpreters. It became obvious, also, that interpreters engaged by either insurers or employees were not to be relied upon always to give an exact version of the testimony of witnesses upon whose evidence the case must be decided, and frequently one side or the other objected to the interpreting of evidence by an interpreter engaged and paid for by the opposing party. There appeared to be ground, at times, for the complaint that, consciously or unconsciously, the evidence as interpreted was colored or translated with freedom by the interpreter; therefore it became necessary to remedy the evil.

This has been done efficiently and economically by engaging a corps of interpreters capable of translating all the more important of the foreign languages and having the ability to perform general clerical work in the office of the Board. These interpreters have become important instrumentalities in interpreting impartially in the interest of fairness at the many con-

ferences and hearings in which injured employees and their dependents who do not speak the English language are interested. The service is furnished without cost to all who have business with the Board, and care is taken to advise employees who require the services of interpreters that employees, paid by the Commonwealth and interested in performing their work fairly, are at their disposal without charge. The linking up of clerical work with interpreting service has made insignificant the net cost of this important work.

COMPENSATION TO YOUNG AND INEXPERIENCED WORKMEN.

In accordance with a recommendation made by the Board the Legislature passed, in 1915, chapter 236, General Acts, entitled "An act relative to compensation to young and inexperienced workmen who receive injuries."

The act provides that "whenever an employee is injured under circumstances that would entitle him to compensation under the provisions of chapter seven hundred and fifty-one of the acts of the year nineteen hundred and eleven, and acts in amendment thereof and in addition thereto, if it be established that the injured employee was of such age and experience when injured that, under natural conditions, his wages would be expected to increase, that fact may be taken into consideration in determining his weekly wages." This act became effective on May 10, 1915.

While the application of the law may not be fully understood at this writing, certain cases have come before the Board which make it clear that employees receiving injuries under the circumstances herein indicated are entitled to the benefit of this act.

The cases referred to below have been passed upon by the Board under the special chapter above cited, and indicate its application under the special circumstances of each case.

Reference, Special Board 1472. — The employee in this case was fifteen years of age at the time of the injury, and was earning the average weekly wage of \$8. He had been working only about two weeks when the injury occurred, and the evidence showed that at the end of six months the employee would have earned, had he not received the injury, an average weekly wage of \$9; at the end of a year, \$10; and at the end of two years, \$14. This latter sum is the wage earned by a competent operator on the cutting machine. As a result of the injury the employee suffered the permanent incapacity of the middle and ring fingers of the right hand, and at the time of the hearing was unable to earn any wages.

The finding of the Board follows: —

The Industrial Accident Board find, upon this evidence, that the average weekly wages of the employee, under chapter 236, General Acts of 1915, shall be fixed as follows: For the period between Aug. 11, 1915, the date of the injury, and Feb. 11, 1916, \$8 a week; for the period between Feb. 11, 1916, and Aug. 11, 1916, \$9 a week; for the period between Aug. 11, 1916, and Aug. 11, 1917, \$10 a week; and for the remainder of the statutory period during which compensation may be due, \$14 a week.

The Board find, further, that during the period of the employee's total incapacity for work, the weekly compensation shall be at the rate of \$5.33 for the period between Aug. 11, 1915, and Feb. 11, 1916; at the rate of \$6 for the period between Feb. 11, 1916, and Aug. 11, 1916; at the rate of \$6.67 for the period between Aug. 11, 1916, and Aug. 11, 1917; and for the remainder of the statutory period during which compensation may be due, \$9.33 per week. If at any time after the date of the injury the employee is able to earn wages, and his incapacity becomes partial, the compensation rate shall be on the basis of two-thirds of the difference between the average weekly wages fixed herein and the average weekly wages which he is able to earn during any portion of the statutory period during which his rights are effective.

The Board find, also, that there is due the employee additional compensation for a period of twenty-five weeks from the date of the injury, at the rate of \$5.33, on account of the permanent incapacity of the ring and middle fingers.

Reference, Ag. 52,152. — In this case there was no dispute as to the facts, and the parties came to an agreement after the conference with a member of the Board.

The agreement showed that the employee, aged twenty, had caught his left arm in the belt of a rand-tacking machine, which resulted in amputation at the elbow. The average weekly wages of the employee at the time of the injury were \$9. It was agreed that the employee's average weekly wages would remain at \$9 until Sept. 27, 1915; that between Oct. 1, 1915, and Jan. 1, 1916, his average weekly wages would be \$11; between Jan. 1, 1916, and April 1, 1916, his average weekly wages would be \$12; and that after April 1, 1916, the

employee's average wage would be \$13.50. Compensation will be paid in accordance with this agreement.

Reference, Arb. 3229. — This case was considered by the Board solely with regard to the application thereto of chapter 236, General Acts of 1915, and the other questions raised by the insurer in its requests for rulings were not properly before the Board. All questions with reference to the employee's ability to perform work will be referred by the Board to a committee of arbitration upon application by either of the parties.

The employee, aged eighteen, received a personal injury which arose out of and in the course of his employment, on Nov. 4, 1915, by reason of which he sustained a reduction of vision in the right eye to less than one-tenth of normal with glasses, and has been and continues to be totally incapacitated for work as a result of such injury. The average weekly wages of the employee at the time of the injury were \$8.80. On Jan. 1, 1916, according to the testimony of Thomas J. Moran, father of the employee, and foreman for the subscriber, his wages would have been increased to \$9.90 per week had it not been for the occurrence of the injury, and had the claimant remained at his work as a woodworker. The employee would be raised at the rate of \$2 a week each twelve months, and it would be expected, in the natural course of events, that he would become a thorough mechanic at the end of two years. The usual wage increase was at the rate of 2 cents per hour each six months' period. The highest rate of wages paid at the Stafford Company was 32 cents an hour, but the foreman testified that he did not consider that wage the limit which his man might earn. The range of pay for the men working in his department is from 25 to 32 cents an hour. It was his intention to have his son remain and learn the business. He does not think it safe for him to return now, in view of conditions. It is a more or less frequent occurrence to have men get sawdust in their eyes. The shop is not equipped with a blower or exhaust system.

The finding of the Board follows: —

The Industrial Accident Board find and decide that the average weekly wages for the period from Jan. 1, 1916, to July

1, 1916, under chapter 236, General Acts of 1915, are \$9.90; and that additional compensation on account of the specific injury is due during the six months' period above referred to, at the rate of \$6.60 per week; and that the parties shall have the right to come before the Board after July 1, 1915, for further hearing under said chapter 236, if unable to agree on the compensation rate due thereafter.

THE REHABILITATION OF CRIPPLED WORKMEN.¹

Recognizing, for some time past, that crippled workmen have rights which are greater and more precious than the right to receive benefits on account of the incapacity due to their injuries, the Industrial Accident Board has turned its attention seriously to the problem of the rehabilitation of those who have received disabling injuries by reason of the dangers inherent to their employment. A careful study of the subject shows that it is possible to eliminate a great part of the economic waste which comes from the neglect of insurers and the employees directly concerned to attempt in any constructive way to fit those crippled by industry for gainful and helpful employment.

Excepting only injuries which result fatally, the costliest cases under the Workmen's Compensation Act are those of workmen who lose hands, arms, legs, feet, fingers, toes, eyes, or who sustain injuries of an equally serious and incapacitating nature; and these are the cases that, neglected, keep insurance rates on a high plane and make the aggregate of compensation payments unnecessarily large.

In Massachusetts alone, in the course of a year, permanent partial injuries of the character here mentioned cause a small army of workingmen to be added to the list of permanently unemployed at a cost not far from half a million dollars annually to insurance companies, and necessitate the levying of a permanent tax on employers and the ultimate consumer, through the insurance rate. Every expense under the Workmen's Compensation Act finds its way into the rate; and every item in the rate ultimately comes out of the pocket of the consumer, who in the last analysis bears all the costs, including compensation insurance, which go into the production of the commodities which labor makes and the public purchases.

The crippled employee with his vacant coat sleeve; the helpless workman with sightless orb; the sturdily built laborer with amputated foot; and the other types of permanently maimed workmen are common sights in every industrial com-

¹ By Francis D. Donoghue, M.D., Medical Adviser.

munity of the Commonwealth. Those whose employers are insured receive their weekly allowance under the Workmen's Compensation Act, ranging from \$4 to \$10 a week; and if they have families, the wife and those of the children above the legal minimum working age assist in the support of the family by performing such labor as they can obtain and perform. Sometimes it is necessary for the charity department to help the family, especially when cold weather sets in and unusual needs make the limited compensation payments insufficient to meet the requirements of the season. Except in those extraordinary cases where the good will of an unusually humane employer finds a way to provide light employment, the crippled workman is doomed to a life without work, and the future holds out but little hope for gainful employment and the contentment which springs from time well spent. The thought of a workless future and a useless existence has caused more than one employee to pass the line separating sanity from insanity; and in at least one case an employee who became despondent through loss of vision committed suicide in a fit of insanity caused, undoubtedly, by brooding upon his unfortunate condition.

Despondency can be turned into contentment, and despair changed to hope, by co-operation between all the parties concerned in the administration of the Workmen's Compensation Act. The Industrial Accident Board, representing the Commonwealth of Massachusetts, and supervising the furnishing of benefits under the law, desires such co-operation. Places for the instruction and training of crippled workmen in new fields of labor should be opened; the ambitions and hopes of employees should be awakened by the practical solution of their difficulties; and opportunities should be afforded for obtaining helpful work, where living wages may be earned, in the manifold trades and occupations that are open to such workers.

Workmen must understand and know that their rights under the Workmen's Compensation Act will not be taken away from them by the teaching of new occupations or trades; and that their co-operation in the matter of learning new work will place them on a self-supporting basis, by adding to the income which they are receiving through the medium of the accident law.

The automatic manner in which the partial incapacity compensation provision takes care of their rights should be explained fully, and examples given indicating its effect upon their rights when work is obtained finally which places them on a partial wage-earning basis. The law provides that employees who are able to earn any wages shall receive two-thirds of the difference between the average weekly wages received prior to the injury and the average weekly wages which they are able to earn thereafter. For example, if an employee who was earning \$15 a week prior to being injured, earns \$9 weekly after the restoration of partial working capacity, he becomes entitled to two-thirds of the difference between \$15 and \$9, or \$4 a week. His total earnings, therefore, will be \$9 a week from his employer and \$4 from the insurer, a net gain of \$3 a week, and a prospect of increased wages as his ability to earn more is proved by his adaptability to the work at hand. The insurance company saves \$6 weekly, the cost of insurance is kept from rising, the workman and his family are in a better position to meet their obligations and enjoy life, and industry has gained by the return to the fold of one of the units necessary to the sum total of its prosperity. In the case of a workman who earned a higher rate of wages at the time of the injury, as, for example, one who earned \$24 weekly, and returned to work earning \$15 a week, the gain for the workman would be noticeably higher. The insurer would be required to pay him two-thirds of the difference between \$15 and \$24, or \$6, making his total income \$21 as against the maximum compensation of \$10. In this case the saving to the insurer would be \$4 a week, and the employee would benefit by a net gain of \$11 weekly. But whether the gain is large or small, and the saving to the insurer little or big, rehabilitation pays big dividends on the expenditure of time and money, and is well worth while from the standpoint of economy and the conservation of labor.

Germany, France and England have found it advisable, on account of the astounding loss of life and limb by reason of the great war, to carry out a plan of re-education of its crippled soldiers on a large scale. The success of Germany, in particular, in this respect has been noteworthy, because prior to the war the rehabilitation of workmen who were crippled through industrial accidents had been successfully applied.

On a visit to Europe in 1915 the medical adviser made a special search for literature bearing on methods for fitting injured workmen so that they might follow gainful occupations. When he returned he brought interesting and valuable publications bearing upon the subject, and these have been placed at the disposal of those interested in such matters.

Later on in the chapter are shown several examples of the work which crippled workmen are able to perform by reason of the study given their cases, and the application of special appliances and vocational training. These illustrations should be an inspiration to employees with permanent injuries in this State, and also to insurance companies. The Board desires that those persons immediately concerned with this problem will co-operate in carrying forward a piece of constructive work in Massachusetts which will be a beacon light to others in this comparatively new field of endeavor. Although the application of these methods has wide possibilities, the subject is very closely related to the problem of compensating workmen and fitting them so that they may resume some type of work as soon after the healing of their injuries as possible.

There is an organization in Germany, known as the Miners' Trade Union, which co-operates with the government in an endeavor to fit crippled workmen once more for the battle of life. The principle upon which this co-operative movement works is stated briefly in the opening paragraph of a publication issued by the union: —

The association for the care of the accidentally injured, in dealing with mutilated persons, after the conclusion of the necessary medical treatment, includes in its benefits, besides the guarantee of a suitable income according to the judgment of the Imperial Insurance Office, the creation of a substitute for the lost member. As substitute, a helping instrument is given which is as suitable as possible to the newly chosen occupation of the workman, and so enables him again to undertake profitable work. Instead of the lost foot or leg he receives a walking instrument; instead of the lost hand or arm he receives a grasping instrument.

Formerly, for the loss of a hand or arm, the employee was given an imitation of the lost member, so far as human ingenuity could devise, but now that is changed in principle. Under the present method there is given, besides the artificial substitute, a practical working instrument which is adapted to

the occupation of the injured employee, and enables him to do manual labor. Much ingenuity and skill have been attained in the manufacture of implements for the hand, foot, arm, under and upper thighs; and the variety of these substitutes for the lost human members, suited to the actual needs of numerous employments, makes it possible for all to procure implements which will ensure their permanent employment in any one of a large number of callings.

One of the publications on this subject states that the employee who has much standing work, or much traveling over heavy roads, prefers a stiff wooden leg as a good support; and on account of the convenient manner in which it can be cleaned the wooden leg is preferable in the workshop, so that the more ornate artificial leg is used only on Sundays and holidays.

Whoever is obliged to use the cars or train from his residence to his work will prefer a wooden leg with a movable knee joint, so that the outstretched support will not jut out in the passage and be knocked about by his fellow travelers. Those who need and can use a bicycle from their residence to their work mostly prefer an artificial leg with movable knee and foot joints, although we know of cyclists who have wooden legs. As long as one is not fully grown, wooden legs are most suitable because they answer the growth best. The artificial leg with movable foot can only be furnished when those who are thus injured are fully grown. Many crippled workmen learn to walk better with a wooden leg, so in such cases the granting of a wooden leg first and then the furnishing of an artificial leg is to be recommended. The artificial leg needs a boot that must be regularly cleaned and maintained. On that account it hides the deformity better and thereby facilitates, for example, when changing work, the attainment of a new position. Many people are able to wear artificial limbs without others knowing it at all.

When the crippled workman is encouraged, by his own ambition and the hope of remunerative employment, to utilize his new powers as they are opened up to him by the mechanical ingenuity of the artificial limb makers, he becomes quite skillful, and takes great delight in being able to use the artificial substitute.

Most wonderful progress has been made in the business or art of making artificial substitutes, both for the hand and arm, and the foot and leg, and, as will be noted by reference to the photographs presented in the pages which follow, crippled workmen have been able to find and perform remunerative employment notwithstanding their injuries.



A VICTIM OF TUBERCULOSIS.

This young woman lost her right forearm by reason of a condition of tuberculosis which necessitated its amputation. After many months of patient, painstaking endeavor, she fitted herself for gainful work, as is shown by the picture on the following page.



AN EXPERT ONE-ARMED LACE MAKER.

This is the young woman who lost her right hand on account of tuberculosis. She immediately set out to learn the lace-maker's art, and became quite accomplished in the use of the needle. She makes fine laces and is skillful in needle craft of all kinds, including darning, knitting, mending and embroidery work.



A ONE-LEGGED GLASS BLOWER.

This one-legged glass blower is not handicapped appreciably in the following of his calling by the loss of his right leg, and is able, notwithstanding its loss, to perform all the duties of his position. He resumed work just as soon as possible after the healing of the stump at the point of amputation and the fitting of an artificial leg.



A ONE-ARMED PORTER.

The porter shown in the above picture lost his right arm, but by means of an excellent artificial attachment, with special appliances, he is able to perform satisfactorily all the duties of his position.



A CRIPPLED BICYCLE RIDER.

This employee had a fall from an engine shed when he was nineteen years old, and lost his left leg just below the hip joint. The stump was short and not very favorable to the fitting of an artificial limb. After a time, however, a suitable artificial limb was made, and he is able to get about rapidly by means of a bicycle. He uses the lady's type shown in the photograph because of the ease with which he can get into position by reason of its elimination of the high crossbar. He fitted himself for architectural work and is able to climb ladders and perform the usual outside work of an architect.



A ONE-ARMED VIOLINIST.

This musician sustained the loss of his right hand, near the wrist, but has been able to follow his profession by the use of a specially designed artificial hand. He is able to play with the same facility, practically, as before the injury.



TEAMSTER ON EXPRESS WAGON.

This workman lost his left foot when he was eighteen years old and is able to-day to perform the customary duties of a teamster. He is shown in this picture, at the age of thirty-three, in the act of mounting an express wagon, upon which he is employed as driver. He has no difficulty in fulfilling the manifold requirements of the position.



CRIPPLED TEAMSTER DELIVERING BARREL.

This is another photograph of the teamster shown on the preceding page. In this picture he is seen in the act of taking a barrel from the wagon upon which he is employed as driver. It will be noted that the greater part of the weight of the workman's body and his burden is thrown, by his position, on the crippled member.



A CRIPPLED SHOEMAKER.

This workman suffered the loss of both legs below the knees and is wearing an excellent pair of artificial substitutes. He has learned the trade of shoemaking and has no difficulty in earning a good living. The loss of his legs has not hampered him noticeably in the following of this calling.



ONE-EYED WATCHMAKER.

This employee lost the vision in the right eye when he was twenty-two and while he was learning the business of watchmaker. Notwithstanding its loss he continued at his trade, became a skilled workman and has followed his avocation for a long period of time. He has experienced no difficulty in continuing at his trade, and is reputed to be one of the best watch repairers in the town where he resides.



A CRIPPLED MACHINIST.

The machinist pictured above lost his right leg just below the knee when he was seventeen years old. He has been working for nearly twenty years and is now thirty-seven years old. While employed in a mine he lost a portion of his leg by reason of an accidental injury, which necessitated its amputation. As soon as the injury healed he was trained to perform the duties of a machinist in the workshop of the mine in which he was injured. He is able to perform the various duties of his position and has not experienced any difficulty because the nature of his work requires him to remain on his feet for several hours at a time.



ONE-ARMED FARMER.

This workman received an injury which necessitated the amputation of the hand and made it necessary for him to take up another occupation. He purchased a small farm and is able to do his work successfully through the aid of an excellent artificial hand and accessories. He is shown in the act of pitching hay and it is said that he can work quite as rapidly as an experienced man with two good hands.



BOY LOSES BOTH LEGS.

This boy has been without both legs, below the knee, since early youth, but has become remarkably proficient in the use of artificial limbs, as will be noted by reference to the photograph on the following page.



BOY WITHOUT LEGS EARNS LIVING.

This is a photograph of the boy who is shown on the preceding page with both legs amputated below the knee. He has been fitted with a good pair of artificial legs and is able to earn a living at his trade of saddle and truss maker. He is shown operating a saddler's sewing machine, can perform all the duties of his position, is able to climb ladders and has no difficulty in getting about.



A ONE-ARMED ARTISAN.

This employee lost his arm at the elbow but is able successfully to follow his trade by the use of special appliances. One of these is shown in the photograph. It is stated that his ability to earn has not been materially diminished because of the injury.

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PERSONAL INJURIES BY DISEASES OF OCCUPATION.

Interest in occupational diseases is of comparatively recent development when considered with that shown in industrial accidents, probably because the results are not so strikingly apparent except in the more severe cases, and because there is not the same element of suddenness which is such a strong factor in calling attention to industrial accidents. During the last five or six years workmen's compensation acts have been put into effect in more than two-thirds of the States, but in very few has compensation been paid for occupational diseases under these acts. In most States the law specifies that injuries must be "accidental," but a few, including Massachusetts, use the words "personal injury" without reference to accidents. In Massachusetts the Industrial Accident Board found that occupational diseases were "personal injuries" under the act in the Hurle and Johnson cases among others, and both decisions named were upheld by the Supreme Judicial Court of the Commonwealth. Under the Michigan act, in which is used the term "personal injury," the Board found, in the *Adams v. Acme White Lead and Color Works* case, that compensation was due the widow of the injured employee who died of lead poisoning. The Supreme Court of the State, however, reversed this decision on the ground that the statute implied injury by accident. In the *Plass v. Central New England R.R. Company* case, infection from poison ivy is ruled accidental within the meaning of the New York statute. The Supreme Court of Wisconsin held that typhoid fever contracted by an employee as a result of drinking contaminated water furnished him by his employer is an accident within the meaning of the act in the case of *Vennen v. News Dell Lumber Company*, and in Connecticut lead poisoning was considered an injury arising out of and in the course of employment and the claim for compensation allowed.¹

Awards for industrial accidents have been of ordinary occurrence in the courts, but the decisions including occupational diseases as personal injuries are in advance of the conditions

¹ This decision has since been reversed by the Supreme Court of Connecticut. (*Miller v. American Steel and Wire Company.*)

which prevailed under the former laws based on negligence. In those States in which such decisions have been made, ruling occupational diseases as personal injuries, there has been a real grasp of the meaning and intent of workmen's compensation. This type of law is not a substitute for employers' liability, but is a remedy for industrial conditions far in advance of any previously in force. The Michigan Supreme Court in the Adams case said in its decision, "We are not able to find a single case where the employee has recovered compensation for occupational diseases at common law. Certainly it can be said that in this State [Michigan] no employer has ever been held liable to the employee for injury from an occupational disease, but only for injuries caused by negligence." The difficulty in proving negligence in cases of occupational diseases is obvious, although the common law does not deprive an employee from recovering for an occupational disease *per se*, providing the element of negligence is present and shown. There is a case in Massachusetts, *H. P. Hood & Sons v. Maryland Casualty Company*, in which an employee recovered under the common law on account of glanders suffered in the course of his employment. In this case, however, the employee was able to prove negligence. Aside from occupational diseases many injuries happen under such circumstances that recovery under the common law would have been impossible, but the Compensation Act is not based on negligence, and is intended to meet the hardships of industrial conditions which result in disability in an entirely different manner from that under the law previously in force.

The Swiss, German and British laws provide for compensation for the employees of their respective governments in cases of occupational disease as well as industrial accidents, but the Federal Employers Liability Act of the United States provides compensation for accidental injuries only, and this law covers only one-fourth of the government employees. The Kern-McGillicuddy bill, which was introduced into Congress to replace the present act, provides for the payment of compensation for occupational diseases as well as industrial accidents.

Although many of the States do not provide for the payment of compensation for occupational diseases under their

workmen's compensation acts, it is evident that they realize the importance of some legislation for the protection of the workers from this type of injury, inasmuch as in 1915, 15 States required the reporting of certain occupational diseases. In Massachusetts physicians are required to report occupational diseases due to lead, brass, phosphorus, arsenic, mercury or their compounds, wood alcohol, anthrax and compressed air. They are also requested to make a report of any other ailment or disease which they believe to have been contracted as a result of the nature, circumstances or conditions of the patient's employment. The passage in Congress of the bill placing a prohibitory tax on phosphorus practically precludes the possibility of many cases of poisoning from this source, although the match industry, which causes most of these cases, was never carried on to any extent in Massachusetts. With regard to lead poisoning, there is practically no lead manufacturing in Massachusetts, so that we should not expect as many cases of poisoning from this metal as in some States, although there are other manufactures here in which this metal is used, as well as in the building industry, in which a large number of painters are employed. There have been comparatively few cases of occupational diseases from brass, arsenic or mercury since the Workmen's Compensation Act went into effect, and no cases of direct poisoning from wood alcohol have come to the attention of the Board. Anthrax is perhaps the only disease to which a large number of employees might be exposed to a greater degree in Massachusetts than in some other States. This Commonwealth leads in the manufacture of boots and shoes, — a condition which necessitates the handling by tanneries and transportation companies of a large number of hides, many of foreign import, in which the anthrax germ is more likely to be prevalent than in those obtained in this country. Table XIX. shows a distribution of the cases of occupational diseases reported to the Board during the year ending June 30, 1915, by causes, number of disability days and amount of wages lost. A summary of these cases is given below.

The number of cases of occupational disease reported to the Board is increasing each year. This, doubtless, is due to the fact that both employers and employees are becoming aware

that these diseases are judged "personal injuries" under the act and are compensable as such. The first year of the act 104 non-fatal cases involving a loss in wages of \$3,204 were reported, and in addition there were two fatal cases. The second year 10 fatal and 354 non-fatal cases were reported in which \$15,582 in wages was lost on account of disability. During the year ending June 30, 1915, three fatal cases and 699 non-fatal cases were reported. The financial loss in earning power on account of these injuries was \$50,318. A study of the non-fatal cases for the three years shows that the injuries have increased in severity as well as in number, as both the average number of days lost and the average wage loss per case have been greater than in the preceding year in every comparison made.

The three fatalities resulting from occupational disease reported to the Board this year were due to lead poisoning, extreme cold and toxic gases, vapors or fumes. The non-fatal accidents included 90 cases due to harmful substances causing constitutional disturbances, 163 resulting from harmful conditions encountered in the occupation of the employee, and 446 local affections caused by various irritant fluids and substances.

Of the cases in the first group, 46 were due to lead poisoning. The occupation responsible for the largest number of these, and also the most serious ones from a disability standpoint, was painting. There were 28 cases in this class, in 4 of which the disability lasted over one year. There were several cases of wrist drop and paralysis among painters. Four cases of plumbism were noted among wire drawers engaged in a process of tempering, in which the wire is passed through a bath of molten lead. The remaining cases were distributed among plumbers, paint makers, a linotype operator, a workman employed in the manufacture of lead, and employees in various other occupations. The average age in these cases was thirty-six years. The fatal lead-poisoning case was that of a man twenty-eight years old, who had been employed for four years painting boilers in a boiler factory. Five months previous to his death he had been treated for lead poisoning by a physician, but then worked for several months following. The cause of death was diagnosed as "cerebral tumor," but an autopsy performed at the request of the Board disclosed no evidence of this, but

showed death to be due to the absorption of lead. On these facts compensation was accordingly paid to the dependents. Two cases of arsenic poisoning contracted by men engaged in forestry work were reported. These injuries were caused by a solution containing arsenic used in spraying trees. Anthrax was responsible for 8 cases, with an average disability per case of fifty-five days. Two of the men infected worked in the beam house of a tannery, one was a wool puller, four were employed as longshoremen or freight handlers to unload hides on the docks, and one was a picker hand in a felt mill. There were 6 cases caused by inhaling dusts, such as metal particles, dust from emery wheels, cotton lint, ashes, etc., with resultant affections of the nose, throat and lungs. Poisonous gases, vapors and fumes were the causes in 24 non-fatal cases and 1 fatal case. Four of the employees were affected by paint fumes, and of those remaining, half were exposed to acid fumes of some kind, and the rest to the gases arising from various compositions with which they worked. A laborer in a chemical plant died of pneumonia, which was thought to have been brought on by inhaling acid fumes. Four other cases were due to harmful substances, including those of two florists who were poisoned by a strong solution of nicotine with which they were cleaning plants.

Injuries arising from harmful conditions encountered by employees on account of the nature of the work are included in the second group of 163 cases. One fatal case of a night watchman who died as a result of exposure while helping to extinguish a fire in the plant in which he worked was reported to the Board. He had a cold at the time, and died within two weeks of lobar pneumonia. The non-fatal injuries classified under extreme cold were mostly frost bites in the cases of teamsters and laborers whose work necessitated their being out of doors. One of these cases was sufficiently serious to require the amputation of several toes. Three men working in refrigerators suffered from frost bites, and there were several cases of pleurisy. The case of longest disability was that of a young man employed as a driver who contracted peripheral neuritis with a resultant paralysis of both legs due to prolonged exposure to cold and wet. The disability in this case

lasted more than a year. The majority of the cases caused by extreme heat were prostrations in periods of very hot weather. Most of the employees were outdoor workers who were exposed to the rays of the sun, or when working indoors were subjected to greater heat than the ordinary person, as firemen, cooks, laundry workers and men employed in foundries. Several were reported during the winter months among persons of the latter class. The disability in most of these cases was very slight. Ten cases of eye strain were reported to the Board. Six of these occurred among workmen who were engaged in welding by electricity, in the process of which the intensely bright light affected the eyes; one was the result of the constant use of a jewelers' glass, and one case developed from the constant glare of the fire to which a night fireman in a foundry was subjected. An electrician was troubled with sore eyes from looking at an arc while leading in batteries, and a monotype operator suffered from eye strain and nervous breakdown as a result of her employment. There is a very noticeable increase in the number of injuries to the nerves, muscles and bones resulting from strain, fatigue, cramps, etc. Sixty-three of these cases were reported in the year under consideration. The "occupational neuroses" among cigar makers compose the largest number of cases of long duration, — 7 of the fourteen have a disability of more than one year. In most cigar factories the employee is given a certain amount of material from which he is expected to produce a specified number of cigars, and one of the impartial physicians who examined the employees in several of these cases expressed the opinion that the disability was caused as much by the nervous strain resulting from this requirement as by the actual fatigue from the constant muscular movement used in making the cigars. The average age in these cases was forty-eight years, and a study of the ages in connection with the duration of disability shows that these injuries increase in severity with age and length of employment. Among the other reports under this group of injuries to nerves, muscles and bones were 8 cases of "housemaid's knee" caused by pressure on the knee in the course of work, and 2 cases of neuritis of more than a year's duration. In these two cases one employee was a pianist and the other an ironer in a laun-

dry. Two cases of typhoid fever due to harmful conditions in connection with the employment occurred in the building trades.

The last general group of causes covers all cases under the heading of irritant fluids or substances, and constant pressure or blows which caused local affections. A large majority of these were cases of dermatitis. Brass was the cause of disability in 8 cases, in nearly all of which the duration was short. These were not cases of brass-founders' disease, but irritation of the skin and slight infection from handling the metal. Sixteen cases in tanneries and textile industries due to the use of chrome were reported. These were cases of dermatitis or of ulcerations of the skin common to men working with tanning solutions or with dyes in textile industries. Cement workers engaged in construction suffered from the irritating effects of the cement; employees in tanneries handling limed skins, and wire workers who came in contact with lime-coated wire, were troubled with eruptions on the arms and hands. Ten cases each were reported due to the handling of hides and raw wool. In most of these cases the injuries took the form of infection from a scratch or a slight inflammation of the skin, but none were anthrax cases. The greater part of the cases attributed to poison from dyes occurred in the textile industries. Many of the infections came through direct contact with the dye itself, particularly in the textile industries, but there were cases in which the employee was affected by dyed products, such as paper, cloth, leather, etc., used in the manufacture of various articles. A rather severe case of eczema of several months' duration was reported in connection with the use of dyes. Two men working with paint had an irritation of the hands and arms; and plating solutions containing cyanide of potassium among other ingredients proved injurious to the skin in the cases of 7 persons, 5 of whom were engaged in nickel plating. Eighteen cases of infection from oil were reported in which many of the employees affected were machine operators who came in contact with the oil used as a lubricant. Soap powders, soda, potash and other cleansing agents caused skin eruptions of varying severity. One case of several months' duration was caused by the continued use of a strong washing powder which

gave rise to a chronic irritation of the skin of the employee's hands. Thirty-nine cases of infection from poisonous vines, trees and shrubs, which occurred while the men were clearing land for building and various other purposes, were reported this year, and in some of the cases the disability was of long duration. More than half was the result of contact with poison ivy, and others were due to infection from dogwood and sumac. A large increase is noted this year in the number of cases due to constant rubbing or pressure, either from the tools or the material with which the employees worked. In the majority of cases the disability was comparatively slight, but of the 135 cases reported, compensation was paid in 37. The miscellaneous reports included, among others, 7 cases of irritation of the face and hands from the use of a wood preservative with which poles, ties, etc., were treated. Fourteen cases of "cane sores" were reported among persons handling reed. These usually start in abrasions of the skin from irritation of the cane into which the hydrofluoric acid with which the cane is bleached enters, causing felons, slight sepsis, etc. Several cases arising from the use of cocobola sawdust in the cutlery and jewelry industries were reported. Three workers in candy factories suffered from eczema or slight inflammation of the skin from the use of sugar or flavoring extracts in the manufacture of candy; wire workers were injured by the lubricant used in drawing wire; and a number of cases were reported in shoe factories where the employees became poisoned from the use of the various dressings and blackings used on the leather.

Although a comparative statement of the extent of the disability in cases of occupational diseases and injuries due to other causes is not altogether fair on account of the difference in the total number of cases in the two groups, nevertheless there is a certain interest attached to the question, and the chapter is concluded by a brief consideration of this point. If we take the cases of occupational diseases in which the duration of total disability lasted beyond the day on which the injury became active there are found to be 523 cases in this group. The number of days lost in these cases was 23,251; this is an average of forty-four days per case. As compared with

these figures there were 48,865 cases of injury other than occupational diseases in which the disability lasted beyond the day on which the injury occurred. The number of days lost in these cases was 1,252,848. This experience gives an average of twenty-six days per case. In making this comparison the fact should be noted that the number of cases of occupational diseases is very small as compared with the total number of cases of all injuries. Of all non-fatal injuries, trivial and otherwise, only seven-tenths of one per cent. are due to occupational diseases. The inequality found in the relatively larger number of cases not occupational diseases, in which there was little or no disability, has been eliminated somewhat in figuring the averages given above by deducting such cases from both groups. The very nature of occupational diseases, however, still makes the comparison with cases in which all kinds of injury are included somewhat misleading unless the fact is remembered that occupational diseases compose only a small part of the entire experience, and are a selected type of case, comparable in a way with certain kinds of serious injuries other than occupational diseases.

The fact remains, however, that as compared with other cases the average disability in occupational diseases when such injury occurs is higher than the average in the general group. Thus, although such injuries collectively may constitute only a very small burden on the cost of compensation, and may be considered as even negligible, the fact that the disability is longer than the general average makes this type of injury more of a burden on the individual sufferer, except in cases in which there is a permanent loss of function, or in which the disability is long drawn out.

Considerable work has been done in spreading safety first propaganda, and with excellent results in many cases, in connection with industrial accidents. There should be a determined effort to reduce the number of cases of occupational diseases. For this purpose not only should the working conditions of employees, including physical environment, materials, processes and methods of work, be studied, but also steps should be taken in the field of medicine to detect incipient disease, and if possible to check its development. As previously

stated, the effect of occupational diseases on the combined accident experience is very small, but the effect on the individual is oftentimes exceedingly distressing. The Board hopes that along with the work of preventing injuries from accidents as ordinarily understood there will be an equally determined effort to reduce the number and seriousness of occupational diseases.

RULINGS AND DECISIONS UNDER THE ACT.

As in previous years there is printed in this chapter a summary of a few of the more interesting cases which have been heard by committees of arbitration, the full Board on review and the Supreme Judicial Court. Although the individual members of the Board are able, in conference with the parties in disputed cases, to bring about a good many informal adjustments without the necessity of having formal hearings, nevertheless there has been an appreciable increase in the number of hearings held in the third year of the act. In publishing the reports of cases for the year July 1, 1914, to June 30, 1915, it was found necessary to divide the decisions in two parts to cover periods of six months. The first part, or Volume III. of the series, for the period July 1, 1914, to Dec. 31, 1914, has been issued; the second part, or Volume IV. of the series, for the period Jan. 1, 1915, to June 30, 1915, is now in process of printing.

In the following pages is given a summary of the more important cases heard before committees of arbitration, the full Board on review and the Supreme Judicial Court, which are printed in Volume III. This digest consists of the consideration of sixty-eight points of law, or special topics, as illustrated by the cases cited. No attempt is made to summarize all the cases in the space here available, but only those cases are considered in which it is felt that the general reader might be interested. For a more extended analysis of the decisions the report of cases should be consulted. There each case is summarized in the case headings, and the facts are reported in greater detail in the body of the cases.

The Supreme Judicial Court on the Question of Burden of Proof. — In Sponatski's case the Supreme Judicial Court, referring to the matter of the "burden of proof," says: —

The burden of proving the essential facts necessary to establish a case warranting the payment of compensation rests upon the dependents in a case arising under the Workmen's Compensation Act as much as it does upon a plaintiff in any proceeding at law. The dependents must go further than simply to show a state of facts which is as equally consistent with no right to compensation as it is with such right. They can no more prevail if factors necessary to support the claim are left to surmise, conjecture, guess or speculation, than can a plaintiff in the ordinary action in tort or contract. A sure foundation must be laid by a preponderance of

evidence in support of the claim before the dependents can succeed. . . . If the evidence, though slight, is yet sufficient to make a reasonable man conclude in his favor on the vital points, then his case is proved, but the rational mind must not be left in such uncertainty that these essential elements are not removed from the realm of fancy.

Speaking again on the same point the court said, in the Von Ette case: —

It has been held repeatedly that . . . the burden of proof rests upon the claimant to show by a preponderance of the evidence that an injury occurred and that it arose out of and in the course of the employment. The determination of these issues cannot be left to speculation, surmise or conjecture. If the evidence upon the questions involved is slender but is sufficient to satisfy a reasonable man, a case has been made out in favor of the claimant. . . . If this claimant were required to prove affirmatively all the facts and circumstances attending her husband's death by direct evidence, it is plain that her claim would fall, but she is not limited to such proof. She may show the existence of such facts as would warrant the inference that her husband did not commit suicide and did not meet with his death as the result of intoxication. . . . There was no evidence of suicide, and therefore the presumption against the commission of a crime is enough to support the finding on that point. . . . There was no evidence to show that he was under the influence of liquor. The Board having found that the employee did not commit suicide and was not under the influence of liquor, and no other cause of death having been suggested except that he accidentally fell off the roof, we cannot say that the finding of the Board that his death was accidental was not warranted.

Risks Incidental to the Employment. — Whether or not an unprovoked murder, as in the Reithel case, was a risk incidental to the employment, was decided in the affirmative by the Supreme Judicial Court in an important decision prepared by Rugg, C.J.

A Summary of the Facts in the Reithel Case. — It appears that the employee, Reithel, was the superintendent of a mill, and that it was a part of his general duty to order trespassers from the premises. In this respect he was required to deal with those more or less heedless of the rights of others in their conduct. Superimposed upon this general obligation resting upon the superintendent, by reason of his contract of employment, was a special one respecting the trespasser who shot and killed him. It came into existence because this trespasser, previous to the fatality, had come upon the premises without permission and had annoyed a woman employee. He had created a disturbance and, in consequence, the manager of the factory had given special instructions to the superintendent to order him out if he came again, and to summon the police if he did not go. The trespasser came again; the superintendent thereupon walked towards him, making a motion in the direction of the door, ordering him to go out, and the trespasser immediately discharged a revolver at the superintendent, fatally injuring him.

The Opinion of the Court. — Rugg, C.J., after stating the facts substantially as above outlined, said: —

In view of these circumstances the employee was given a special direction respecting Bombard. His duty was defined in this particular. He was to be ordered out,

and the police were to be summoned if he did not go. Commonly such precautions are not taken nor such directions given respecting the ordinary trespasser. They indicate that the employer and employee realized that they were dealing with a maker of trouble, who was or might be generally lawless in his conduct, and who must be treated accordingly for the security of property and the safety of employees and others who might be upon the premises. The liability to whatever personal injury might be likely to arise in dealing with such a person was, therefore, within the contemplation of employer and employee in establishing the boundaries of the latter's duty. That became a risk of the employment.

Danger of being assaulted is not the Usual Concomitant of Work. — The court said, further, in the Reithel case, that it was not usual for people with whom a mill superintendent came in contact to commit crime, and that conduct of that sort is not to be presumed nor commonly expected. Nor is the danger of being assaulted the usual concomitant of work. The court then goes on: —

But when a special duty arises to deal with one who is a trespasser, an annoyer of a woman employee and a creator of disturbance, then a corresponding risk of personal violence arises. That duty and that risk then became correlative. It hardly can be said as a matter of law, under these circumstances, that danger of assault from such a creator of disturbance as Bombard was not incidental to the doing of that which Reithel's contract of employment required of him.

The Danger of Assault Necessarily need not be foreseen. — The court says finally that the danger of assault necessarily need not be foreseen in order to bring the injury within the scope of the employment. Its unexpectedness and gravity are not tests. That murder resulted instead of a broken bone is of slight, if any, significance. The employee would not have been exposed to the danger of injury if it were not for the special duty imposed upon him by his employer. Therefore, the causative danger was peculiar to his work; it was incidental to the character of the employment and was not independent of the relation of employer and employee.

Although unforeseen, and the consequence of what on this record appears to have been a crime of the highest magnitude, yet now, after the event, it appears to have had its origin in a hazard connected with the employment, and to have flowed from that source as a rational consequence. Tried by the test suggested in McNicol's case, the injury seems to have arisen in the course of the employment.

Insanity and Suicide, having Causal Relation to Eye Injury resulting in Loss of Vision, arise out of the Employment. — The record shows, in the Sponatski case, that the employee received a personal injury by reason of the spattering of molten lead into his eye, resulting in total loss of vision in such eye. About a month later, as the result of a fit of insanity, which the weight of the evidence showed had a causal connection with the injury, he threw himself from the window of his room in the hospital in which he was receiving treatment and sustained injuries which resulted in his death.

Obligation to pay Compensation Absolute when Fact is established that Injury arises out of the Employment. — After stating the facts substantially as above, and discussing the case at some length, Rugg, C.J., says: —

The obligation to pay compensation under the Workmen's Compensation Act equally is absolute when the fact is established that the injury has arisen "out of and in the course of" the employment (Part II., section 1). It is of no significance whether the precise physical harm was the natural and probable or the abnormal and inconceivable consequence of the employment. The single inquiry is whether in truth it did arise out of and in the course of that employment. If death ensues it is immaterial whether that was the reasonable and likely consequence or not; the only question is whether in fact death "results from the injury" (Part II., section 6). When that is established as the cause, then the right to compensation is made out. If the connection between the injury as the cause and the death as the effect is proven, then the dependents are entitled to recover, even though such a result before that time may never have been heard of and might have seemed impossible. The inquiry relates solely to the claim of causation between the injury and the death.

Drawing an Inference of Fact from Indirect Evidence. — The court, in the Von Ette case, affirmed the findings and decision of the Industrial Accident Board that the death of the employee arose out of the employment, although there was no direct evidence as to all the facts and circumstances attending the fatality. The record shows that the decedent was in the employ of the Globe Newspaper Company as a compositor, and that he met his death on the night of June 21, 1914. He went to work on that evening and was last seen alive at about 11 o'clock. His employment would have ceased at 1.45 o'clock the next morning. Decedent's body was found the next morning at 3.45 o'clock upon the ground, six stories below the floor where he worked. The injuries which caused his death resulted from a fall from the roof of the building adjoining the room in which he worked. When he left his home for work that night he informed his wife that he would return on the 2 o'clock car the next morning. He apparently was contented and happy. He had made plans for the future, including an engagement for certain recreation, and, so far as known, had no idea of committing suicide. It was a common practice among the workmen on the newspaper to go up on the roof of a building on the employers' premises for the purpose of getting fresh air, the temperature in the workroom in the summer time sometimes being 110 degrees, and usually warmer than the outside temperature. The Board drew the inference from all the facts that the employee went up on the roof for the purpose of getting the fresh air, and while there accidentally slipped and fell to the ground where he met his death.

Effect of Office Rule forbidding Absence without Permission when Custom has established Right of Men to be absent without Such Permission. — It appears in the record in the Von Ette case that there was an office rule of the employer which was posted on the premises and read as follows: "No employee shall leave the composing room during working hours except on office business without permission of the man in charge." The

Board finds that there was an established custom among the employees, known to the employer, to go up on the roof for the purpose of obtaining fresh air, and that it was an incident of the employment of the deceased to go up on the roof. Under such circumstances the rule, being vitiated by established custom, known to the employer, is without weight.

Upon this point the court says: —

If we assume that it would be a violation of the rule to go up on the roof during working hours without seeking permission, for the purpose of obtaining fresh air, the question is whether the rule was in force at the date of Von Ette's death, or whether it had been waived by the employer. There was ample evidence of a general practice of the men who worked in the composing room to go up on the roof to get fresh air and cool off on hot nights, and that such practice was known to the employer. We are of opinion that the Board was warranted in finding that the rule was not in force but had become a dead letter at the time of the accident.

The Point upon which the Decision in the Von Ette Case turned. — If the act of the decedent, in going out upon the roof for the purpose of getting fresh air, was an incident of his employment, even though he was not actually working at the time of the accident, the resulting fatality arises out of the employment. Crosby, J., says: —

The question whether the injury arose out of and in the course of the employment is one of some difficulty, and a majority of the court are unable to say that the finding of the Board was wrong. The accident happened upon the premises of the employer, and we think, in view of the practice which might have been found to exist under which the men went up on the roof for fresh air, that the act of the deceased in going there on a warm night was not necessarily outside his employment, but could have been found to be incidental thereto. An injury to a workman may arise out of and in the course of his employment even if he is not actually working at the time. The fact that the unprotected place upon the roof where it is found the deceased fell off is 23 feet away from the foot of the stairway is not decisive against the claimant. He could have been found to be rightfully upon the roof, and was not bound to remain at the foot of the stairs or on any particular part of the roof. We cannot say as a matter of law that the Board was not warranted in finding that the injury arose out of and in the course of the employment, even if the deceased fell from the roof at a place 23 feet from the stairway. We cannot say that the Board has drawn inferences which no reasonable man could draw, and for that reason we cannot set aside its findings. Upon principle, aside from authority, the conclusion which we have reached is abundantly supported by the decisions of the English courts.

Acceleration of Pre-existing Disease. — It appears, in the Fisher case, that the employee received the injury which resulted in his death by reason of the lifting of a bag of coal weighing from 150 to 200 pounds, following a considerable period of physical exertion. This personal injury materially accelerated and aggravated a previously diseased heart condition and caused the employee's death. The medical examiner stated that the decedent's heart muscle was tired and exhausted before and at the time of his entry upon his last labor, and that this last act was a sufficient cause for the inability of the heart to perform its work. The court sustained the decision of the Board.

Arising out of the Employment; Dual Employment. — In the McPhee case the evidence shows that the decedent, in his dual capacity as superintendent and director of the subscriber's volunteer fire department, and a member of the Hull fire department, went to the scene of a certain fire for the purpose of extinguishing the flames and protecting the buildings of his private employer from danger by reason of their proximity to the fire. He, with other members of the volunteer fighting force of the subscriber, remained on duty at the scene of the fire until it was extinguished. Before the blaze was subdued the volunteer fire department of the town of Hull arrived. The evidence shows that the employee was drenched as a result of his labors while in the interior of the building with the members of the volunteer organization of his employer, and that the personal injury resulting from such drenching and smoke saturation had a causal connection with the subsequent death of the employee from pneumonia.

The Substantial and Preponderant Factor controlling Action of Decedent was the Duty which he owed to his Employer. — Rugg, C.J., held that the substantial and preponderant factor controlling the action of the decedent, according to the evidence reported by the Board, was the duty which he owed to his employer, who was a subscriber to insurance under the Workmen's Compensation Act, and that his services to the town of Hull, not an insurer under the statute, were merely accidental and subsidiary, his statement of the case being as follows: —

While the deceased was a member of the town fire department, and as such required to attend the fire, it well might be that his paramount duty was owed to the subscriber to protect its property from destruction by fire, and to prevent thereby a panic among its patrons and the disaster which might ensue. It does not seem to us possible to say as a matter of law that when he had exhausted the chemical of the subscriber, and began working in connection with the fire apparatus of the town, he ceased acting primarily in the interests of his employer, who was the subscriber, and began working exclusively for the town. The interests of his general employer in the extinguishment of a fire in such threatening proximity to its property well may have been found to have been so dominant as to absorb the exclusive attention of McPhee, and to have rendered him in the direction of his own conduct chiefly concerned to act for its interests as to the means employed and the result to be achieved in the particular service of extinguishing the fire. If this was so, then his efforts were directed to the promotion of the business of that general employer, even though it happened that at the same time he was acting in accordance with his obligation to the town fire department. But under such circumstances the latter would be accidental and subsidiary, while the substantial and preponderant factor controlling his action would be the duty owed to his employer, who was the subscriber.

Three Points of Importance in the Gove Case. — The court decided three questions of importance in the Gove case, in each instance affirming the ruling of the Industrial Accident Board. The questions raised by the insurer involved the interpretation of the word "employee," the right of the insurer to receive credit for the value of the board furnished a decedent in computing the amount due a partial dependent, and a determination of the meaning of the term "average weekly wages" in a case

where the employee was a member of the union and worked only a short time on the job.

Decedent was the Employee of the Subscriber and not of an Independent Contractor. — The record shows that arrangements were made by telephone between the subscriber and the father of the employee to "put up the rough work of the stairs that is done before the house is plastered." The subscriber was a subcontractor who had contracted to erect the building in which the stair work was to be done. Afterwards the subscriber advised how the work should be done, and gave the father "all the particulars." The latter engaged the decedent, at a fixed wage per day, to assist in erecting the stairway. While so engaged the employee met his death. His father testified that he engaged to do the work by the day, at \$4.40 per day, "and it was the same for the boy." The subscriber stated that the father of the decedent "agreed to so much a flight for this job, \$2 a flight. . . . I paid him at the rate of \$4.40 because he did not finish that job." The court held that "in this conflict of testimony the committee and the Board were warranted in believing the father and finding that the deceased was an employee of Brooker."

The Board was Right in not deducting the Value of Board which Dependent furnished to Decedent. — The court gives careful consideration to the claim of the insurer that the value of the board furnished by the dependent to the decedent should be deducted in computing the amount due to the partial dependent, and, after a comprehensive discussion of the cases cited and the application of the principles of the English compensation law to the case at bar, states that the principle of Lord Campbell's act has never been adopted under any circumstances in Massachusetts. Loring, J., then continues: —

In place of continuing the English rule (the amount of injury caused to the dependents) the Legislature adopted the wages of the deceased as the basis by which the amount to be paid was to be measured. They provided that where the claimant was wholly dependent upon the deceased one-half of his average weekly wages (within a maximum and minimum amount there stated) should be allowed for a period of three hundred weeks from the date of the injury. (Now two-thirds of his average weekly wages, with minimum of \$4 and maximum of \$10, for period of five hundred weeks, not to exceed a total payment of \$4,000.) Where the claimant is wholly dependent upon the deceased it is of no consequence whether he contributed all his wages or only a fraction of them to the dependent, and it is of no consequence whether the deceased did or did not receive any benefit from the dependent. The sum to be paid is measured by the wages of the deceased, not by the injury done to the dependent. Where the dependents were only partly dependent upon the earnings of the deceased the amount to be paid is a "weekly compensation equal to the same proportion of the weekly payments for the benefit of persons wholly dependent as the amount contributed by the employee bears to the annual earnings of the deceased at the time of his injury." The amount to be paid in case the dependent was partly dependent only is to be a portion of that paid in case of those wholly dependent, and the amount is to be determined on the same basis; that is to say, it is to be measured, not by the injury done the dependent, but by that portion of the average weekly wages of the deceased which the amount of his wages contributed by him to the dependents bore to the amount of his annual earnings, without regard to the benefits, if any, received by the deceased from the dependents.

Average Weekly Wages of a Carpenter who does not work regularly. — Where the evidence fails to disclose whether or not the decedent had worked as an employee at any other time during the year, and where it was shown affirmatively that such decedent was a member of the union, and that the union rate of wages was \$4.40 a day, the court held that the case came within the latter part of the definition of "average weekly wages" as given in the statute. This clause provides that where it is impracticable to compute the average weekly wages as above defined, regard may be had to the average amount "earned" by a person in the same grade employed in the same class of employment and in the same district during the twelve months preceding the date of the injury. The court then concluded: —

It appeared that the deceased was a member of the union and that the union rate of wages was \$4.40 a day.

Changed Employment Conditions after Injury do not affect Average Weekly Wages upon which Compensation Rate is based. — The record in the Durney case showed that the average weekly wages of the employee "before the injury" were \$22, and that, had he not received an injury, he "probably would have been able to earn only an average weekly wage of \$19.40." This finding was made, on the evidence, at the request of the insurer. The Board ruled, however, that the average weekly wages of the employee, in accordance with the definition given in the statutes, were \$22. Carroll, J., referring to this phase of the controversy, says: —

In deciding the question of the employee's average weekly wages before his injury the Board was right in considering what in fact his weekly earnings were before he was injured, and not what they would have been if he was not injured, and in disregarding the circumstances that because of labor conditions his weekly wages, if uninjured, now would be \$19.40. His average weekly wages before he was injured were \$22, and not a less amount, and it was unimportant, therefore, in passing on this question to take into account what he would have earned if business conditions had not caused a general reduction in wages.

A Specific Finding that Partially Incapacitated Employee can earn a Certain Sum, although not in Fact earning such Sum, is Conclusive of Earning Ability. — The Board gave the insurer a finding in the Durney case that, although the employee had earned only \$13.20 weekly since his return to work, his wages "would have been \$15 had it not been for dullness and depression of business." Partial incapacity compensation was awarded, however, on the basis of an earning ability of \$13.20. The court held that the Board erred in this respect, distinguishing the case from that of Septimo, by declaring that in one case, the latter, the Board found Septimo unable to earn any wages during a period of shut-down, and in the present, that Durney would have been able to earn \$15 except for dullness in trade. Carroll, J., continues: —

In the case at bar there is a specific finding that the employee is now earning \$13.20 instead of \$15 because of dullness in trade. This is equivalent to a finding

that his inability to earn \$15 a week is caused, not by his incapacity or his injury, but solely because of business conditions; and there is no claim made of total incapacity, as in the Septimo case.

Daughter who is Physically Incapacitated from earning is Wholly Dependent upon Decedent. — The record in the Carter case shows that the decedent and his widow had been separated for a period of three years prior to his death, and that their daughter, who suffered from heart trouble and indigestion, had not been able to work for a period of three years, with the exception of two occasions. During one week in the period of twelve months prior to her father's death she worked in a florist's store, and subsequent to such period she had worked in a grocery for another week. Apart from the fact that the daughter had savings of about \$100 at the time of her father's death, her only income was the contribution of \$4 to \$5 a week which her father sent her. Loring, J., says: —

The question comes to this: where a daughter for three years before her father's death has had no income except money allowed her by her father, and the compensation for two weeks which is so small that it may be disregarded, and is too ill to work, does the fact that at her father's death she had \$100 saved from the money given her by her father prevent a finding that she was wholly dependent on her father at the time of his decease? If the sum saved had been sufficient to constitute a means of support or a partial means of support the existence of the savings would prevent a finding to that effect. But the income from the savings here in question is at the most \$4 or \$5 a year, and if the principal is used it would last so short a time that it cannot be taken to be a means of even partial support. It appeared at the hearing that since the father's death \$50 to \$60 of the principal had been used. We are of opinion that the finding was authorized.

Meaning of the Words "Permanently Incapable of Use." — The question in the Floccher case was whether or not the hand of the employee had been rendered "permanently incapable of use," within the meaning of Part II., section 11 (e) of the statute. It appears that the employee had no voluntary motion in the arm, and had changes in his hand which showed that he had sustained a nerve injury which caused the middle, ring and little fingers to be substantially paralyzed and useless. He had a small amount of motion in the thumb and first finger. An operation might be performed which would give the employee a stiff arm, at a right angle, but he would have a permanent impairment of the right elbow under any form of treatment. Pierce, J., says: —

The words "incapable of use" should receive a construction which, while fairly within their interpretation, is not narrow and technical, nor, on the other hand, so free and liberal as to give a right which the words themselves do not fairly import. In the case at bar, for practical purposes, the ability to use the hand to the extent of a small amount of motion in the thumb and first finger, with the middle, ring and little fingers paralyzed, and with an interference of the circulation to such a degree that the hand goes to sleep, is negligible. The use approaches the infinitely small, and must be disregarded if we are to prevent the technical impairment of a humane provision of law.

Operation is Unreasonable if Benefit to be derived is Uncertain. — Referring to the question of the performance of an operation in the Floccher case the court said: —

It well may be asserted that it would be unreasonable to put the claimant to the discomfort attending an operation the result of which would be the probability of a "shoulder stretched out" and of "muscles used up," and in addition doubt as to the time within which some uncertain and indeterminate degree of benefit reasonably might be expected.

Questions of Procedure before the Supreme Judicial Court. — In the McPhee case the dependent raised a question as to the right of the insurer to be heard, the claim being made that the case on appeal was not brought to the attention of a justice of the Superior Court within the ten days fixed by the statute. Upon this point Rugg, C.J., states: —

The dependent of the deceased employee has suggested a question whether the case is rightly here, because it is provided by the Workmen's Compensation Act, as amended by St. 1912, chapter 571, section 14, "that there shall be no appeal from a decree based on an order or decision of the board which has not been presented to the court within ten days after the notice of the filing thereof by the board." This does not mean that the case must be actually brought to the attention of a justice of the Superior Court within that time. It is a compliance with the statute if the required papers are presented to the court in the sense of being filed as a part of its records. The case is here rightly.

In the Doherty case, which was remanded to the Industrial Accident Board for correction and amplification of the record, it appears that the difficulty arose by reason of the fact that the evidence, as reported, while showing that the employee suffered from lead poisoning, did not show the source of that poison. There was testimony that the employee had worked as a printer for the employer for about fifteen years as a "bank" man, an "ad" man, and as a linotype operator, and that he handled type all the time during that period. There was nothing in the record to show the composition of the type upon which he worked; nor was there anything to show that lead fumes or lead dust or any dangerous compound of lead was given off in a printing office, or in such handling of type as that engaged in by the employee to such an extent and in such form as to be likely to be taken into the human system and to cause plumbism. The case had been remanded to the Board for correction and amplification; the Board not only supplied omissions and corrected the defects of the earlier record, but it went further and made a new finding. The court held that the Board had no authority to make a new finding, and recommitted the case to the Industrial Accident Board, where the employee may move for a hearing and for the introduction of further evidence.

Insurer appeals Case involving Meaning of "Lost Time" to Supreme Judicial Court. — In the case of *Mason v. Employers' Liability Assurance Corporation, Ltd.*, the only question involved is that of average weekly wage in general, and particularly the meaning of the reference to lost time. The record shows that the employee received a fatal injury which

arose out of and in the course of his employment, and that the widow was paid compensation by the insurer on the basis of an average weekly wage computed by dividing the amount earned by the number of weeks in a year. Counting holidays, the employee lost 2.791 weeks in the year preceding his demise. If holidays are not to be considered as "lost time," the employee did not lose more than two weeks, and the divisor is 52. If the contrary is true, and holidays are to be considered as lost time, the divisor is 52 less 2.791. The Board adopted the latter course and fixed the average weekly wages at \$16.22. The insurer paid compensation on a basis of \$15.34. This case is now pending on appeal before the Supreme Judicial Court.

Inference of Fact drawn by Board. — In the case of *Harmon v. General Accident Assurance Corporation, Ltd.*, taken by appeal to the Supreme Judicial Court, the Board drew an inference of fact from the evidence in favor of the dependent, which may be stated briefly as follows: the employee had been working during the forenoon repairing the pinion that drives the paddle wheel in one of the vats in the subscriber's place of business. This vat was semicircular in shape, and was about 8 feet long, $4\frac{1}{2}$ to 5 feet wide and 4 feet high. It contained a mild caustic solution, mostly water, with a small amount of carbolic acid, to a depth of nearly 3 feet. The workman was last seen alive washing his hands at a faucet some 40 feet from the vat. About an hour later he was found dead in the vat. Previously he had sustained a cerebral hemorrhage, but had gradually improved up to the time of his death.

When Condition of Ulcers complicated by Locomotor Ataxia is healed Compensation Period terminates. — The employee appealed from a decision of the Board in the case of *Hunt v. Globe Indemnity Company*, in which it was decided that no compensation was due for incapacity, owing to a condition of locomotor ataxia which had been pre-existent at the time of the injury. The record shows that the employee received a personal injury by reason of the scraping of his leg and shin bone, which accelerated and aggravated an old condition of varicose ulcers, superimposed upon the disease known as locomotor ataxia, from which he was suffering at the time of the injury. The insurer, desiring to remove all effects of the injury, furnished and paid for an operation for the cure of the ulcerous condition. As a result of the operation the ulcer was dry and hard, and the employee became free from all incapacity due to the injury on a certain date.

Frostbite is a Personal Injury under the Act. — The insurer appealed the decision of the Board to the Supreme Judicial Court in the case of *McManaman v. Globe Indemnity Co.* This is the case of a longshoreman who, the Board found, was especially exposed, by reason of the nature of his work, to materially greater danger and likelihood of getting frozen than the ordinary person or outdoor worker on the date upon which he received the personal injury by frostbite.

When the Injury results by Reason of Intoxication it does not arise out of the Employment. — The claimant appealed the decision of the Board to

the Supreme Judicial Court in the case of *Rochville v. General Accident Assurance Corporation, Ltd.*, in which it was held that his injuries were due to his own serious and willful misconduct by reason of intoxication, and therefore did not arise out of his employment. It appears that he and a fellow workman had visited several saloons during the course of their work day; that his partner had been arrested for drunkenness; and that the resident surgeon at the hospital had testified that the employee was intoxicated at the time of his admission. The Board found that he fell from the wagon because of the condition in which he was, and dismissed the claim for compensation.

Pneumonia is Coincidental with but not caused by Injury. — The Board decided, in the case of *Ouellette v. London & Lancashire Guarantee and Accident Company*, that the employee's death by pneumonia had no causal relation to a personal injury arising out of the employment. It appears that the employee was struck by a piece of ice, said injury causing him to fall to the floor of the ice house. He resumed work almost immediately after this occurrence and remained during the balance of the day. Several days later he became ill with pneumonia, and his dependent claimed that the pneumonia was caused by the injury. The case was taken by appeal to the Supreme Judicial Court.

Board rules that Value of Board should not be deducted in determining Partial Dependency Compensation Rate. — In the case of *Keefe v. Massachusetts Employees Insurance Association* the Board held that the value of the board furnished the decedent by his dependent should not be deducted from the amount of his weekly contribution in determining the rate of compensation. This case was taken by appeal to the Supreme Judicial Court. The claim of the insurer probably is of no weight in view of the decision of the court in the *Gove* case, *ante*.

Insurance Salesman is within Scope of Employment while taking Automobile Ride with Prospective Client. — The insurer appealed from the decision of the Board in the case of *Hewitt v. Casualty Company of America*, and the Supreme Judicial Court will be called upon to decide whether or not an insurance agent, who takes an automobile ride at the invitation of a prospective customer and is injured while so riding, is within the scope of his employment while so doing.

Cancer of the Esophagus not due to Injury. — The Board denied compensation to the dependent of an employee who died as the result of cancer of the esophagus, alleged to be due to the injury, in the case of *McRae v. Massachusetts Employees Insurance Association*. The evidence did not show any causal relation between the injury and the disease which caused death.

Bright's Disease has no Relation to Employment. — In the case of *Monahan v. Employers' Liability Assurance Corporation, Ltd.*, the record shows that the employee complained to his wife of illness on Aug. 2, 1914, and tried to work on the 4th, being obliged to return home, on account of stomach conditions, at 4 o'clock in the afternoon. There was no evidence of an injury, and the medical evidence showed that there was no connec-

tion between the employment and the Bright's disease which caused his demise. Held, that the death of the employee did not arise out of the employment.

Injury occasioned by Breach of Rule not within Scope of Employment. — The record, in the case of *McCabe v. Employers' Liability Assurance Corporation, Ltd.*, shows that the employee was required frequently to convey cleaning materials from one floor to another, and was obliged to use a certain freight elevator for which a regular operator was furnished by the subscriber. It was contrary to a rule and practice of the company for the general employees to operate this elevator. The resulting injury did not arise out of the employment.

Death due to Inhalation Pneumonia following Operation for Hernia. — Angela Alphonse, widow of Michael Alphonse, was awarded compensation against the Massachusetts Employees Insurance Association under the following circumstances: the evidence showed that the employee received a personal injury by reason of which a condition of hernia already existing was so aggravated and accelerated that it became strangulated. Following an operation for the relief of this latter condition the workman died from inhalation pneumonia.

A Pin Prick causes Blood Poisoning, and Compensation awarded Widow. — In *Kettner v. Massachusetts Employees Insurance Association* is reported the case of an employee who was injured by the prick of a "pin tag" in the course of his duty as a clothing salesman. Shortly afterwards death ensued, due to streptococcus infection. Compensation was awarded his widow.

Employee accustomed to Daily Use of Intoxicants dies from Delirium Tremens. — In the case of *Whitney v. Zurich General Accident and Liability Insurance Company, Ltd.*, the Board ruled that an injury to an employee who was accustomed to the daily use of intoxicants, and who died as the result of a condition of delirium tremens which followed blood poisoning, was covered under the statute. Compensation was awarded his dependent.

Traumatic Delirium Tremens to an Employee who used Intoxicants regularly. — It was decided, in the case of *Cross v. Employers' Liability Assurance Corporation, Ltd.*, that compensation was due the employee's widow upon the record. The evidence showed that the employee, who habitually indulged in intoxicants, fell from a stepladder and fractured the fibula. Traumatic delirium tremens and edema of the brain ensued and caused his death.

Delirium Tremens to be expected in an Alcoholic Employee after Severe Injury. — It appears to be expected that in the case of a severe injury to an alcoholic employee delirium tremens will ensue in all probability. This was true in the case of *Lynch v. Employers' Liability Assurance Corporation, Ltd.* The record shows that, while standing in the hold of the vessel upon which he was employed, endeavoring to cause the coal bucket to clear a post, the bucket struck the post, swung back and knocked the employee down. His ankle was fractured and he was taken to the

hospital for treatment. It appears that he was an old alcoholic, that is, a person in the habit of indulging in intoxicants. The case was complicated by the fact that an unknown person brought him whiskey in a bottle while he was at the hospital. The weight of the medical evidence showed, and it was so held, that death was due to the severity of the injury in a man who had low resistance because of the fact that he took alcohol regularly.

Employee may be intoxicated at Time of Injury, and unless Intoxication is the Cause of the Injury Compensation is due. — The record shows that Freeman, the employee, in the case of *Freeman v. Standard Accident Insurance Company*, was intoxicated on the night of the injury, and was found in a serious condition in the stable of his employer. He informed his wife that he fell over hay wire in the darkness, and was injured by contact with the sharp point of a pitchfork. There was no witness of the occurrence. Death resulted from traumatic hemorrhage of the brain. Held, that the injury arose out of the employment.

Workman in Acceptable Condition at Time of beginning Employment. — When an employee is in an acceptable condition, in the opinion of his foreman, to begin work, and there is no evidence of such employee having taken intoxicants thereafter, or of the existence of a condition of intoxication at the time of the injury, and being the cause thereof, compensation is due under the act. (*Paull v. Fidelity and Deposit Company of Maryland.*)

Negligence is not Willful Misconduct. — The employee, in the case of *Campeau v. Massachusetts Employees Insurance Association*, was a motorman engaged in operating a passenger car at the time of the injury. As a result of orders from the despatcher he proceeded towards his destination on a single track, and collided with an electric freight car. It appears that despatches were received and given by a system of telephone communication, and that the collision came about as a result of a mistake, by reason of which he confused the identity of the first freight car with the second, believing that the track was clear. Held, that the employee was not entitled to double compensation, and that at most the despatcher was guilty only of negligence.

Fatality due to Intoxication does not arise out of Employment. — The employee, in the case of *Kiley v. Employers' Liability Assurance Corporation, Ltd.*, met his death under circumstances which showed that he was intoxicated, and that such condition was the cause of the injury and not a risk peculiar to the employment.

Death due to Cirrhosis of Liver and Delirium having no Relation to the Employment. — In the case of *Sandner v. Employers' Liability Assurance Corporation, Ltd.*, the dependent alleged that the death of her husband was due to an injury incurred by lifting a barrel of gin while employed by the subscriber. The evidence failed to substantiate the claim, there being nothing to show that the injury occurred, and no connection between the alleged occurrence and the condition of cirrhosis of the liver and delirium tremens from which the employee died.

Intestinal Rupture due to Kick of Horse necessitates Operation, and Death ensues. — *Mary Wolinski*, widow of *Joseph Wolinski*, claimed compensa-

tion from the Casualty Company of America on account of the death of her husband under the following circumstances: the employee received a kick from a horse in the stable in which he was employed. The kick ruptured the small intestines and necessitated an operation for the relief of the condition. Death followed the operation. Held, that the widow was entitled to compensation.

Pre-existing Varicosity not materially accelerated by Injury. — The employee received a personal injury by reason of the caving in of a gravel bank, and received compensation for a period of about six months. Thereafter the insurer refused to pay compensation, and the employee claimed that a condition of varicose veins, as an after-effect of the accident, prevented him from resuming work. The evidence showed that this condition had existed prior to and was not materially affected by the injury. Held, in *Leonard v. Employers' Liability Assurance Corporation, Ltd.*, that the employee was not entitled to compensation.

Epileptiform Attack causes Employee to fall into Hole filled with Water. — The employee, in *Smith v. Commonwealth of Massachusetts*, was subject to epileptiform attacks and fell into a pool of sewerage water. His body was completely covered with water, and when he was taken from the pool he was unconscious. He remained about the works during the day and did not change his clothing. When he arrived home at night he was taken with a chill, which was followed by pleurisy and pneumonia. Death resulted from the latter disease. Held, that the injury and death of the employee arose out of the employment.

Employee who faints and strikes Machinery is entitled to recover. — The employee, a weaver, while engaged in the operation of her loom, suddenly fell against it, her left arm striking on the iron gear and being broken. It appears that she had a momentary attack of faintness, and that this attack was the cause of her fall. Held, in *White v. American Mutual Liability Insurance Company*, that the injury arose out of the employment.

Employee faints after witnessing Accident. — In the case of *Fingliss v. Frankfort General Insurance Co.* an employee fainted as the result of seeing an accident and was incapacitated for work as a result thereof. Held, that the injury arose out of the employment.

Two Persons conclusively presumed to be Wholly Dependent. — When two persons, the decedent's widow and a daughter by a former marriage, survive, both are conclusively presumed to be wholly dependent for support, and the compensation due under the act was awarded to them in equal shares in *Capasso v. Maryland Casualty Company*.

A Child not legally adopted is not a dependent. — In *Smyrl v. City of Boston* it was held that the claimant, a young man of twenty, was not a dependent within the meaning of the act, not having been legally adopted by the decedent, although he was regarded as a member of the family and usually referred to as the employee's "son."

Ivy Poisoning covered under the Circumstances. — The employee was engaged in gathering and burning brush containing ivy vines, and as a result of his contact with the vines his arm became swollen and he became

incapacitated for work because of ivy poisoning. Held, in *O'Shaughnessy v. Commonwealth of Massachusetts*, that the injury arose out of the employment.

Frostbite is covered when it is due to Materially Increased Exposure. — The record in the case of *Gillis v. Maryland Casualty Co.* shows that the employee was required to deliver a load of lumber a distance of about 28 miles on a cold day in February, the task requiring eleven hours for its accomplishment. The feet of the employee were well protected by heavy stockings and moccasins, with felt inner soles. The claimant had a helper, and when they arrived at their destination it fell to his lot to assume the task of passing the lumber from the ground upon which it was thrown to the other employee, who was stationed inside the building, under cover. There was snow to the depth of 2 feet on the ground, and the lumber necessarily came into contact with such snow. The job was finished at 1 o'clock in the morning. Later, upon taking off his moccasins in a nearby lunch room, the employee discovered that his feet were frostbitten. Held, that the frostbite arose out of the employment.

Hand is Permanently Incapable of Use when reduced to Mere Stump. — When the injury reduces the hand to a mere stump, with no reasonable prospect of use, as in *Harlow v. American Mutual Liability Insurance Company*, the employee is entitled to additional compensation for a period of fifty weeks, on the ground that it has been rendered permanently incapable of use.

Employee of Independent Contractor entitled to Compensation from Insurer of Subscriber. — In *Barnes v. New England Casualty Company* the employee was engaged by a certain independent contractor to aid him in the execution of a contract to place a tank on his automobile and sprinkle the contents upon certain streets. The subscriber's business was the buying, selling, carting, delivering, sprinkling and depositing on roads and streets of fluid or road tar, and the work incidental thereto, and the injury to the employee was received while he was engaged in work for the independent contractor, which was a part of the business carried on by the subscriber. The independent contractor was not insured. Held, that the insurer of the subscriber was liable.

When Subcontractor not insured, Employee may claim Compensation from Insurer of General Contractor. — It was held in the case of *McCarthy v. Massachusetts Bonding and Insurance Company* that the dependent was entitled to compensation from the insurer of the general contractor, the subcontractor who employed the decedent not having been insured at the time of the fatality.

Member of Copartnership not entitled to Compensation. — The claimant was a partner in the firm of the subscribers, and claimed compensation as an "employee" because of incapacity for work due to an injury received by him while performing certain work for the firm. He received \$30 weekly as wages, and claimed that he was an employee within the meaning of the statute. Held, in *Baratta v. General Accident Assurance Corporation, Ltd.*, that the claimant was not an employee under the act.

Lodge Physician not entitled to Payment when Insurer furnishes Medical Treatment. — The employee, in *Jasmin v. Employers' Liability Assurance Corporation, Ltd.*, received an injury, and called upon his lodge or society physician for attendance, being entitled to treatment, as a member, without cost. Notices advising employees of the fact that the insurer furnished medical services at the Union Hospital were posted in the mill, and a person in authority offered to give him a card authorizing treatment there. He refused, preferring to have his lodge physician. Held, that the insurer had complied with the requirements of the statute.

When Employee is discharged from Special Position, and Discharge is not due to his Unreasonableness, Compensation is due. — The evidence showed that the employee had received an injury which necessitated amputation at the shoulder, and that he had been furnished a special position at light work. He was discharged by a foreman who did not appreciate the difficulties under which he labored. Thereafter the employee made diligent efforts to secure suitable work, but without success. Held, in *Coggins v. Employers' Liability Assurance Corporation, Ltd.*, that the employee's incapacity and inability to earn were due to the injury.

Workman receives Injury while trying to board Train designated by Superintendent. — Compensation was awarded in the case of *Wheeler v. Maryland Casualty Company*. The employee was ordered to go with his superintendent by train from Worcester to Westfield, and while both were attempting to catch and board a certain train designated by the superintendent he received the injury which incapacitated him. During the entire time of his absence from the factory the employee was on "shop time" and entitled to pay for his services.

Tips of Waiter are Part of his Earnings. — It was held in *Ponigada v. Casualty Company of America* that the "tips" or gratuities received by a waiter, as well as his meals and remuneration in money, were a part of his earnings, and that they should be included in computing his "average weekly wages."

Waitress subject to Call at Any Time receives Injury while getting out of Bed. — The employee was a waitress in the hotel of the subscriber, and was furnished, in addition to her wages, lodging, meals and laundry. She was subject to call at any time. At about 4.45 o'clock on the morning of the injury she started to get out of bed, and, in passing her companion, lost her balance and fell out of the window. Held, in *Queenan v. Travelers Insurance Company*, that the injury arose out of the employment.

Employee injured by Reason of larking in which she did not participate. — The employee received the injury while standing at the sink in the wash room, washing her hands at a time when it was perfectly proper for her to do so. She was hit in the side of the stomach by a ball of burlap thrown in a spirit of fun by another employee, and not aimed at her. Held, in *Howley v. American Mutual Liability Insurance Co.*, that the injury did not arise out of the employment.

Employees were fooling when One pushed Other onto Chopping Machine. — Compensation was held not to be due in the case of *Geceviec v. Travelers*

Insurance Company, where both employees were fooling and one was pushed onto a chopping machine, receiving a serious injury.

Attendant at Insane Asylum assaulted by Inmate is entitled to Compensation. — Held, in *Clarke v. Commonwealth of Massachusetts*, that an injury to an attendant in an insane asylum by reason of an assault by an inmate is covered under the statute.

When there is Evidence of Malingering and None of Injury Compensation is not due. — The employee, in *Beloni v. American Mutual Liability Insurance Company*, gave no evidence of the effects of the injury but some evidence of malingering, and it was held that compensation was not due.

NEW LEGISLATION RECOMMENDED BY THE BOARD.

The Industrial Accident Board makes the following recommendations for legislative action:—

1. Reduction in the "waiting period" in all cases from the present fourteen days to ten days.

2. Payment of compensation from the date of injury where the duration of incapacity is twenty-eight days or more.

3. Increase in the maximum weekly compensation from \$10 to \$14.

4. Payment to dependents in fatal cases for the full period of five hundred weeks, so that in cases where there have been payments to the deceased employee, the dependents shall receive the death benefit for the full period which would be payable if the employee had died without receiving any compensation himself.

5. An amendment providing for the admission as evidence of the reports of impartial physicians.

The additional cost of each amendment would be (1) \$115,895 a year; (2) \$267,204; (3) \$99,800; (4) \$15,000; (5) no cost; for all proposed amendments, approximately \$400,000 a year.

Substantially the same argument answers for recommendations Nos. 1 and 2. The theory of the waiting period of fourteen days is that compelling a workman to wait that period before his compensation shall begin prevents malingering in cases of trivial injuries. Malingering has not been a serious problem in the three years' experience of this Board. Where a workman is disabled for twenty-eight days or more, obviously he has an injury of some seriousness, and in such cases the loss of compensation during the first two weeks is a considerable hardship. In the adoption of these amendments we would not be taking an advanced position. Several American States have similar provisions. Under the British act, as amended in 1906, there is no waiting period if the employee is incapacitated for fourteen days or more; and in other cases the waiting period is but seven days.

As to No. 3, employees receiving more than \$15 a week wage do not receive a benefit corresponding to those who receive less wages, viz., two-thirds of their wage as compensation, the

present maximum being \$10 a week. It is an unfortunate economic truth that the outgo of a family corresponds to its income, and the hardship which a skilled worker suffers when his wage of \$20 to \$35 a week is replaced by compensation of \$10 weekly may be readily seen. Again, employers of high-grade labor complain that they pay a premium based upon their payroll, but that this payroll is not the test in the payment of compensation.

Recommendation No. 4 is to meet a few cases and the cost is slight. Occasionally a case arises where the injured employee has lived and received compensation for a considerable period after the injury. In such cases these weeks are included in the statutory period of five hundred weeks for the payment of compensation, and the result is that the longer the employee lives the greater the loss to his dependents. These cases constitute genuine hardships whenever they arise. Instead of having five hundred weeks' compensation coming to them when the breadwinner dies, the widow and children find this period materially reduced, and have to face, besides, the expenses which have accumulated while the employee has lingered on.

The amendment with regard to the admissibility of reports of impartial physicians as evidence before the Industrial Accident Board is necessitated because of the fact that such reports are frequently of no value in connection with the hearing of cases under the statute, by reason of objections by attorneys to their admission as evidence. Ordinarily, the employee cannot afford to pay the fee of such physician for personal attendance at proceedings instituted under the act. If the insurer is furnished seasonably with a copy of the report of such physician, there can be no objection to its consideration as evidence, since the insurer may summon the physician to appear at the hearing if his attendance is desired.

COMPENSATION LAWS IN THE UNITED STATES.

Although there has been printed considerable information to show the nature of compensation laws in force in different States and territories, apparently this information has not been given sufficiently wide circulation to meet the demand. The frequency with which the Board is requested from time to time to advise persons regarding the compensation acts of different States, makes it advisable to publish a chapter in which these laws are summarized. The fact that this work has already been done to a considerable extent would ordinarily deter the Board from duplicating in a way the work of other persons and bodies. This information, however, oftentimes is not available to the general public, and for that reason its distribution in the annual report should serve to meet a real demand of a considerable number of persons in the Commonwealth.

In writing this chapter the Board has used freely compilations already made, in addition to the bulletins containing the laws which have been issued by the different State boards and commissions. Inasmuch as there are changes in some of the laws each year, and there may be new compensation acts in force, the information given in this chapter is subject to change and correction. This digest covers the field through the year 1915.

The summary given in the following pages is arranged by political divisions, and the provisions of each law are classified according to the following schedule:—

- Date of enactment.
- Injuries compensated.
- Industries covered.
- Persons compensated.
- Burden of payment.
- Computation of average wages.
- Constitutionality.
- Waiting period.
- Compensation for death.
- Compensation for disability.
- Revision of benefits.
- Insurance.
- Security of payments.
- Settlement of disputes.

The tabulation which follows shows these provisions for 31 States, 2 territories and the United States. The Canal Zone has a compensation act, but the Board is not in possession of all the provisions as arranged above, and so the terms of this law are not given at this time.

ALASKA.

Date of Enactment. — April 29, 1915; in effect July 28, 1915.

Injuries compensated. — Personal injuries by accident arising out of and in course of employment, unless due to intoxication or willful intention to injure self or another.

Industries covered. — Any employment in connection with mining operations where five or more are employed.

Persons compensated. — Private employment: all employees in mining operations. Public employment: no provision.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — No provision.

Constitutionality. — No provision.

Waiting Period. — Two weeks after injury unless disability continues for eight weeks or longer, then compensation is to be computed from date of injury.

Compensation for Death. — (a) Lump sum ranging from \$1,200 to \$6,000, according to number and kinship of dependents.

(b) If no dependents, funeral expenses, maximum, \$150.

Compensation for Disability. — (a) Only in case of death where there are no dependents employer must pay necessary expenses (medical and hospital), if any, arising after injury and before death.

(b) For total disability, if permanent, lump sum ranging from \$3,600 to \$6,000, according to connubial state and domestic circumstances. If disability is temporary, 50 per cent. of average daily wages; maximum period, six months.

(c) For partial disability, if permanent, lump sum based on schedule of payments for permanent total disability, proportioned to loss of earning capacity; maximum, \$4,800. If partial disability is temporary, 50 per cent. of average daily wages; maximum period, six months.

(d) Special schedule of compensation for loss of certain members, etc.

Revision of Benefits. — If it develops that employee is entitled to a higher rate of compensation than that originally determined, he is to receive such higher rate, after deducting amount already paid, provided such right develops within two years from date of injury. Employee must submit to medical examination upon request.

Insurance. — No provision.

Security of Payments. — No security required, but in case of death claim employer may stay proceedings by depositing with clerk of district court \$6,000 in cash, or a bond with two or more sureties for same amount.

In other cases a writ of attachment may be issued by clerk of court or United States Commissioner upon application of claimant, unless employer files an undertaking with two or more sureties in sum equal to double amount of claim.

Settlement of Disputes. — In case of disputed claim, action may be brought against employer in any court of competent jurisdiction within the territory, subject to law of procedure governing other actions for recovery of money. Special procedure applicable to claims or actions in case of death to be determined by district court after hearing, with right of jury trial on demand.

ARIZONA.

Date of Enactment. — June 8, 1912; in effect Sept. 1, 1912; amended May 13, 1913; in effect Oct. 1, 1913.

Injuries compensated. — All accidental injuries causing disability of at least two weeks, or death, arising out of and in the course of the employment, caused in whole, or in part, or contributed to, by a necessary risk or danger of, or inherent in the nature of, the employment, or by failure of the employer or his agents to exercise due care or to comply with any law affecting the employment.

Industries covered. — All especially dangerous employments, including the construction, operation and maintenance of steam and street railroads, using or working near explosives, building work, using iron or steel frames or hoists, derricks or ladders or scaffolds 20 or more feet above ground; telegraph, telephone or other electrical work; work in mines, quarries, tunnels, subways, etc.; all mills, shops, works, yards, plants and factories using power machinery. Industries declared especially dangerous are specified in law. Elective as to other industries.

Persons compensated. — Private employment: all employees in industries covered. Public employment: no provision.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average wages to be computed on basis of earnings on full time during preceding year or shorter period with same employer.

Constitutionality. — No provision.

Waiting Period. — Two weeks after accident, but if disability lasts longer, compensation payable from date of accident.

Compensation for Death. — (a) If death results from injury within six months, to dependents a sum equal to 2,400 times one-half the daily wages or earnings of the deceased employee, but not to exceed \$4,000. Payments to children cease on reaching the age of eighteen years.

(b) If no dependents, the reasonable expenses of medical attendance and burial.

Compensation for Disability. — (a) For total disability, 50 per cent. of average wages payable in semimonthly instalments.

(b) For partial disability, a semimonthly payment equal to one-half the wage decrease.

(c) The total amount of payments for total or partial disability caused by a single injury not to exceed \$4,000.

Revision of Benefits. — Examinations as to the nature of injury and degree of incapacity, etc., may be required by either party at intervals of not less than three months.

Insurance. — The employer may insure, provided the liability for compensation is not less than the compensation fixed by law.

Security of Payments. — Employer may stay judgment for compensation by securing payment with one or more freehold sureties or a surety company.

Settlement of Disputes. — Disputes may be settled by (a) written agreement between the parties, (b) arbitration, or (c) by reference to the Attorney-General of the State; in case of failure or refusal to agree by any of the modes above provided, then by a civil action at law.

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CALIFORNIA.

Date of Enactment. — April 8, 1911; in effect Sept. 1, 1911; amended May 26, 1913; in effect Jan. 1, 1914.

Injuries compensated. — Injuries arising out of and in the course of employment causing disability for more than two weeks, or death, and not the result of the intoxication or willful misconduct of the injured employee.

Industries covered. — All except agriculture and domestic service and employments both casual and not in the ordinary course of the trade, business, etc., of employer; also such employments in interstate commerce as are not subject to legislative power of State.

Persons compensated. — Private employment: every person in the service of an employer for hire, including aliens, apprentices and members of employer's family who perform labor, excepting casual laborers. Public employment: persons employed by the State and its political subdivisions, and all public corporations.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Wages shall be one fifty-second of average annual earnings; latter shall be three hundred times average daily wages, maximum, \$1,666.66, minimum, \$333.33. Average wages shall include value of board, lodging, etc., but not sums advanced to cover expenses incident to employment. In case of a minor permanently incapacitated, average weekly wages shall be deemed to be the weekly sum which he would probably have earned after attaining majority had he not been injured.

Constitutionality. — If any part of act is held unconstitutional, remaining provisions not affected thereby.

Waiting Period. — First two weeks' disability. Compensation begins on fifteenth day after employee leaves work.

Compensation in Case of Death. — (a) To persons wholly dependent, three times the annual earnings of the deceased employee; not less than

\$1,000 nor more than \$5,000, payable at least monthly in installments equal to 65 per cent. of the wages. Payments to children cease on reaching the age of eighteen years, unless mentally or physically incapacitated for earning a living.

(b) If only partial dependents survive, such proportion of the above as corresponds to the ratio between the earnings of the deceased and his contribution to their support. His annual earnings to be taken at not less than \$333.33 nor more than \$1,666.66.

(c) In all cases the reasonable expense of burial, not exceeding \$100.

Compensation for Disability. — (a) Reasonable medical, surgical and hospital treatment required during the first ninety days after the injury, but such time may be extended by Commission.

(b) For temporary total disability, 65 per cent. of average weekly earnings during such disability.

(c) For temporary partial disability, 65 per cent. of weekly loss of wages during such disability.

(d) The aggregate amount of benefits for a single injury causing temporary disability is limited to three times the annual earnings of the injured person, with a maximum benefit period of two hundred and forty weeks.

(e) For permanent disability, 65 per cent. of average weekly earnings for two hundred and forty weeks. After the expiration of two hundred and forty weeks a further benefit of 40 per cent. of the weekly earnings is payable during the remainder of life.

In case of permanent incapacity or death, a lump sum may be substituted for benefits, such lump sum to equal the present value of the benefits computed at 6 per cent.

Revision of Benefits. — Decisions and awards may be reviewed at any time during the first two hundred and forty-five weeks, after legal notice received.

Insurance. — A State insurance fund is created under State control for the purpose of insuring employers against liability. Employers may effect insurance for liability for accident with any insurance company. Municipalities are required to insure in the State fund, unless the risk is refused.

Security of Payments. — No security required, but employer may insure against liability for compensation.

Settlement of Disputes. — Disputes are settled by the State Industrial Accident Commission, subject to a limited review by the courts.

COLORADO.

Date of Enactment. — April 10, 1915; administrative provisions in effect April 10, 1915; liability provisions in effect Aug. 1, 1915.

Injuries compensated. — Personal injuries accidentally sustained while performing service arising out of and in the course of employment, unless intentionally inflicted by self or another.

Industries covered. — All public and private, except public officials and casual employments. Presumption of acceptance does not extend to employers of domestic servants, farm or ranch laborers, or to those who regularly employ less than four in same business, but such employees may elect to come under act.

Persons compensated. — Private employment: all employees, except casual employees. Public employment: all employees, except public officials and casual employees.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be one fifty-second of average annual earnings; latter to be average daily wages during preceding year multiplied by three hundred, or by number of days actually employed. If such method be impracticable, average annual earnings of another in same employment and locality may be taken as basis for computation. If injured employee was of such age and experience as that under natural conditions his wages would be expected to increase, this fact may be considered. Weekly earnings of a minor permanently disabled to be determined on basis of probable earnings if not disabled.

Constitutionality. — If any part of act is held unconstitutional it shall not affect validity of remainder.

Waiting Period. — First three weeks of disability. Compensation begins on twenty-ninth day.

Compensation for Death. — (a) To total dependents, if death proximately results from injury within two years, 50 per cent. of average weekly wages, maximum, \$8 weekly; for remainder of period between death and six years from date of injury, maximum amount \$2,500, minimum, \$1,000.

(b) To partial dependents same rate of payments, to continue for all or such portion of six years as commission may determine; maximum, \$2,500.

(c) If no dependents, reasonable burial expenses; maximum, \$100.

(d) If death, occurring during period of permanent disability payments, is not due proximately to accident, total dependents are entitled to balance of award, total disability payments being reckoned at \$2,500.

(e) Payments to partial dependents in case of death from any cause during disability period are limited to four times amount devoted by deceased to their support during the preceding year; maximum, \$2,500, including disability payments.

Compensation for Disability. — (a) Medical, surgical and hospital treatment as reasonably needed during first thirty days of disability; maximum, \$100; unless other terms have been arranged by previous agreement. In case of hernia, if employee requires operation, special fee, maximum, \$50, to be paid by employer, insurer or commission.

(b) For total disability, 50 per cent. of average weekly wages, maximum, \$8, minimum, \$5, or full wages weekly, to continue as long as disability is total.

(c) For partial disability, 50 per cent. of impairment of earning power; maximum, \$8 weekly, maximum amount, \$2,080.

(d) A special schedule for loss of certain members, etc.

Revision of Benefits. — Commission may, on its own motion and notice to parties interested, modify or change its order or award within fifteen days from date thereof, on the ground of mistake. Employee must submit to medical examination on request.

Insurance. — Act establishes State compensation insurance fund, administered by commission to be self-supporting through assessments on employers. Employers may insure with any authorized stock corporation, or may incorporate mutual insurance companies.

Security of Payments. — Assenting employers must either insure with any authorized stock or mutual insurance corporation, in State fund, or furnish proof of financial ability to pay compensation.

Settlement of Disputes. — Disputes to be determined by commission after hearing on written application of any party in interest. A petition for hearing on reasonableness of commission's award may be filed.

CONNECTICUT.

Date of Enactment. — May 29, 1913; in effect Jan. 1, 1914; amendments in effect May 20, 1915.

Injuries compensated. — All injuries arising out of and in the course of employment, disability of more than two weeks, or death, except when injury is caused by willful and serious misconduct of the injured employee, or by his intoxication.

Industries covered. — All industries, in absence of contrary election by employer. All employments by an employer having regularly five or more employees, casual employees and out-workers excepted.

Persons compensated. — Private employment: all employees of employers accepting the act, in absence of contrary election. Public employment: employees of the State and any public corporation within the State using the services of another for pay.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — By dividing total amount received during twenty-six weeks previous to injury by number of calendar weeks actually employed in that time. Where such period of actual employment is less than two weeks, average weekly wage shall be deemed equivalent to that prevailing in same employment and locality.

Constitutionality. — If any part of act is held unconstitutional, remaining provisions not affected thereby.

Waiting Period. — First ten days of disability. Compensation begins on eleventh day.

Compensation for Death. — (a) In all cases \$100 for burial expenses.

(b) To persons wholly dependent, a weekly compensation equal to one-half the earnings of the deceased employee.

(c) If only partial dependents survive, a weekly compensation, determined according to the measure of dependence, not exceeding one-half the earnings of the deceased employee.

(d) Compensation shall in no case be more than \$10 or less than \$5 weekly, and shall not continue longer than three hundred and twelve weeks. A widow's or widower's dependence ceases with remarriage, and a child's upon reaching eighteen years of age, unless physically or mentally incapacitated.

Compensation for Disability. — (a) Medical and surgical aid and hospital service.

(b) For total disability, a weekly compensation equal to one-half the employee's earnings, not more than \$10 nor less than \$5 weekly, nor for longer than five hundred and twenty weeks.

(c) For partial disability, a weekly compensation equal to one-half the wage loss, but not more than \$10 per week, nor for longer than three hundred and twelve weeks. For specified injuries causing permanent partial disability, one-half the average weekly earnings for fixed periods, in lieu of all other payments.

Lump sum payments may be approved by the commissioner, provided they equal the value of the compensations.

Revision of Benefits. — Review may be had upon request of either party, whenever it shall appear to the Compensation Commissioner that the incapacity or the measure of dependence has changed.

Insurance. — Approved schemes may be substituted provided the benefits are equivalent to those provided by law. Insurance may be taken in approved stock or mutual companies or associations.

Security of Payments. — Employer must furnish the Insurance Commissioner satisfactory proof of his solvency and financial ability to pay awards, file satisfactory security with the Insurance Commissioner, or insure in approved stock or mutual companies or associations.

Settlement of Disputes. — Disputes are to be settled by the compensation commissioners. Appeals from findings and awards of any commissioner may be made to the Superior Court of the county within ten days without cost to either party.

HAWAII.

Date of Enactment. — April 28, 1915; in effect July 1, 1915.

Injuries compensated. — Personal injuries by accident arising out of and in course of employment, unless caused by willful intention to injure self or another, or by intoxication. Not to include disease, except as it results from injury.

Industries covered. — All industrial employments, public and private, except those that are purely casual and not for purpose of employer's trade or business.

Persons compensated. — Private employment: all employees except those whose weekly remuneration exceeds \$36. Public employment: all employees except public officials who are elected or who receive salaries over \$1,800.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be com-

puted in manner best calculated to give average earnings during preceding twelve months, taking into consideration, if necessary, average weekly earnings of another in the same district and grade of employment. If employment at time of injury is at higher wages than previously during year, only such higher wages to be considered. Wages to include market value of board, lodging, etc., which can be determined in money.

Constitutionality. — If any part of act is held unconstitutional it shall not affect validity of act as a whole, nor any part thereof which can be given effect without such invalid portion.

Waiting Period. — First fourteen days of disability. Compensation begins on fifteenth day.

Compensation for Death. — (a) If death results from injury, within six months; in all cases, burial expenses; maximum, \$100.

(b) In addition to (a), 25 to 60 per cent. of average weekly wages, according to number and kinship of dependents; maximum period, three hundred and twelve weeks; but in case of a child, to continue until age of sixteen, and, if unmarried and incapable of self-support, for one hundred and four weeks thereafter, maximum amount \$5,000. In computing death benefits, average weekly wages considered to be maximum, \$36, minimum, \$5.

Compensation for Disability. — (a) Reasonable medical, hospital and surgical expenses during first fourteen days of disability; maximum, \$50.

(b) For total disability, 60 per cent. of average weekly wages, maximum, \$18, minimum, \$3, or full wages (if temporary, but if permanent \$3 is absolute minimum), weekly, maximum period three hundred and twelve weeks, maximum amount, \$5,000. Certain severe injuries deemed to constitute permanent total disability.

(c) For partial disability, 50 per cent. of loss of earning power; maximum, \$12 weekly, maximum period, three hundred and twelve weeks, including period of payments for total disability, if any, maximum amount, \$5,000.

(d) Diminished ability to obtain employment owing to disfigurement may be held to constitute partial disability.

(e) Special schedule of compensation for loss of certain members, etc.

Revision of Benefits. — On application of any party on the ground of change in conditions Board may at any time, but not oftener than once in six months, review an agreement or award, and thereupon make new award ending, diminishing or increasing compensation, unless payments have been commuted. Injured employee must submit to medical examination upon request.

Insurance. — Employer may insure with any authorized stock corporation or mutual association.

Security of Payments. — Private employers must insure with authorized stock company or mutual association, obtain guarantee insurance with an authorized company, deposit with territorial treasurer security satisfactory to Board, or furnish Board with satisfactory proof of financial ability to pay. Public employers may insure with any authorized insurance carrier.

Settlement of Disputes. — In case of dispute, either party may apply for formation of arbitration committee of three members representing, respectively, each party and Board; committee to make award after hearing. Upon application of either party for a review within ten days after award, or if no award is made, within thirty days, claim must be determined by Board after full trial.

ILLINOIS.

Date of Enactment. — June 10, 1911; in effect May 1, 1912; amended June 28, 1913, in effect July 1, 1913.

Injuries compensated. — Accidental injuries arising out of and in the course of employment causing permanent disfigurement, disability of over six working days, or death.

Industries covered. — The building trades; construction, excavating and electrical work; transportation; mining and quarrying; work with or about explosives, molten metals, injurious gases or vapors, or corrosive acids; the operation of any warehouse or general or terminal storehouse; and all enterprises in which the law requires protective devices, provided the employer elects. Other employers may elect, but forfeit no defences if they do not. Compulsory as to State and its municipalities.

Persons compensated. — Private employment: all employees except casual employees. Public employment: all persons employed by the State, county, municipality, etc., except officials.

Burden of Payment. — Entire cost rests on the employer.

Average Wages — how computed. — Average annual earnings shall be average daily wages multiplied by 300, or such other multiplier representing the normal number of working days in a year. Earnings not to include wages for overtime or money advanced for expenses incidental to employment.

Constitutionality. — If compensation provisions are adjudged unconstitutional, period between injury or death and such decision not computed as part of time limited by law for commencement of damage suit.

Waiting Period. — For total temporary incapacity, first six days of incapacity; for total permanent incapacity, compensation to begin on day after injury.

Compensation for Death. — (a) To persons wholly dependent or to lineal heirs to whose support the employee had contributed within four years, a sum equal to four years' earnings, not less than \$1,650 nor more than \$3,500.

(b) If only dependent collateral heirs survive, such a percentage of the above sum as the support rendered was of the earnings of the deceased.

(c) If no dependents, a burial benefit not exceeding \$150.

Compensation for Disability. — (a) Medical and surgical aid for not over eight weeks, not over \$200 in value.

(b) For total disability, beginning with eighth day, a weekly sum equal to one-half the employee's earnings, \$6 minimum, \$12 maximum, during disability or until payments equal a death benefit; thereafter, if the

disability is permanent, a sum annually equal to 8 per cent. of a death benefit, but not less than \$10 per month.

(c) For partial disability, one-half the loss of earning capacity, not more than \$12 a week; maximum period eight years.

(d) For certain specific injuries (mutilations, etc.), an additional benefit of 50 per cent. of weekly wages for fixed periods.

(e) For serious and permanent disfigurement, not causing incapacity, and not otherwise compensated, a sum not exceeding one-fourth the death benefits.

Lump sum payments for either death or disability may be substituted for periodic payments by the Industrial Board.

Revision of Benefits. — Medical examinations may be had not oftener than every four weeks. The Industrial Board may, on request, review installment payments within eighteen months after the award or agreement thereon.

Insurance. — The employer may insure or maintain a benefit system, but may not reduce his liability under the act.

Security of Payments. — Employers must furnish proof of ability to pay, or give security, insure or make other provision for security of payment. The rights of an insolvent employer to insurance indemnities are subrogated to injured employees.

Settlement of Disputes. — Disputes are determined by the Industrial Board through an arbitration committee, subject to review by the Board. Questions of law may be reviewed by the Supreme Court.

INDIANA.

Date of Enactment. — March 8, 1915; administrative provisions in effect March 8, 1915; liability provisions in effect Sept. 1, 1915.

Injuries compensated. — Personal injuries by accident arising out of and in course of employment, whether within State or outside, or in a foreign country, unless due to willful misconduct. Not to include disease except as it results from injury.

Industries covered. — All employments, except those that are casual; domestic service and farm labor.

Persons compensated. — Private employment: all employees except casual employees, domestic servants and farm laborers. Public employment: same exceptions as for private employment.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to mean earnings for preceding year divided by 52; but if employee lost more than seven consecutive days' time, such loss to be deducted from divisor. Where this method is not practicable, regard may be had to average wages of another person in the same locality and class of employment. Average wages deemed to be not less than \$10 nor more than \$24.

Constitutionality. — If any part of act is held unconstitutional it shall not affect the validity of the act as a whole nor of any other part thereof.

Waiting Period. — First two weeks of disability. Compensation to begin on fifteenth day after injury.

Compensation for Death. — (a) If death results from injury within three hundred weeks, burial expenses; maximum, \$100.

(b) To total dependents, 55 per cent. of average weekly wages, maximum, \$13.20, minimum, \$5.50 weekly, for remainder of period between death and three hundred weeks after injury.

(c) To partial dependents, such proportion of foregoing as amount contributed by deceased to their support bore to his annual earnings.

(d) If death was not due to injury, balance of disability award to be paid to dependents.

Compensation for Disability. — (a) Medical aid during thirty days after injury, and at his option employer may continue same during entire period of disability.

(b) For total disability, 55 per cent. of average weekly wages, maximum \$13.20, minimum, \$5.50 weekly; maximum period, five hundred weeks, maximum amount, \$5,000.

(c) For partial disability, 55 per cent. of average loss of earning power, maximum, \$12, minimum, \$5 weekly; maximum period, three hundred weeks, including period of total disability, if any, maximum amount, \$5,000.

(d) Special schedule for loss of certain members.

(e) Special provisions in case of successive injuries.

Revision of Benefits. — Board may at any time, on its own motion, or upon application of any party in interest, on the ground of a change in conditions, review an award, and increase, diminish or terminate payments. Employee must submit to medical examination upon request.

Insurance. — Employers are authorized to form mutual or reciprocal insurance associations, subject to Board's regulation.

Security of Payments. — Assenting employers are required to insure in some authorized corporation, association, etc., or must furnish Board with proof of financial responsibility, with deposit of bond or other security at Board's request.

Settlement of Disputes. — Terms of compensation may be fixed by agreement, after fourteen days from date of injury, subject to approval by Board; or by Board or a member thereof, after a hearing upon application of either party. Award made by Board member subject to review by full Board upon application made within seven days from date thereof.

IOWA.

Date of Enactment. — April 18, 1913; in effect, (a) establishing industrial commission and providing for insurance of employees, July 4, 1913; (b) compensation features, July 1, 1914.

Injuries compensated. — All personal injuries arising out of and in the course of the employment causing disability of more than two weeks, or death, except when caused by the injured employee's willful intention to injure himself or another, or by the intoxication of the employee.

Industries covered. — All industries except agriculture and domestic service in absence of contrary election by employer. Compulsory as to State and its municipalities.

Persons compensated. — Private employment: all employees in industries covered in absence of contrary election, except clerks not subjected to the hazards of the industry, and casual employees. Public employment: all employees of the State and its subdivisions.

Burden of Payment. — Entire burden is on employer.

Average Wages — how computed. — Compensation computed on basis of average annual earnings, which shall be average daily wages multiplied by 300, or such other multiplier representing the normal number of working days in year. Earnings not to include overtime wages or money advanced for expenses incidental to employment.

Constitutionality. — No provision.

Waiting Period. — First two weeks of incapacity. If incapacity lasts longer, compensation begins on fifteenth day after injury.

Compensation for Death. — (a) Reasonable expenses of the employee's last sickness and burial, not to exceed \$100.

(b) To persons wholly dependent a weekly payment equal to 50 per cent. of the wages of the deceased employee, but not more than \$10 nor less than \$5 per week for three hundred weeks.

(c) If only partial dependents survive, such a proportion of the above as the amounts contributed by the employee to such partial dependents bear to his annual earnings; maximum period, three hundred weeks.

(d) If the employee was a minor whose earnings were received by the parent, a sum to the parent equal to two-thirds of the amount provided for persons wholly dependent.

Compensation for Disability. — (a) Reasonable surgical, medical and hospital services and supplies for first two weeks, not exceeding \$100.

(b) For total disability, 50 per cent. of wages, not more than \$10 nor less than \$5 (unless wages are less than \$5, then full wages), for not more than four hundred weeks.

(c) For partial disability, the same compensation as for total disability, to be paid for a period of not more than three hundred weeks.

(d) For specified maimings, 50 per cent. of average weekly wages for fixed periods. Lump sum payments may be substituted on approval of the court.

Revision of Benefits. — Payments may be reviewed by the Industrial Commissioner at the request of either party. Employee must submit himself for examination.

Insurance. — Employers may insure in approved companies or mutual associations, or contract with employees to maintain approved scheme in lieu of the compensation provided by law, provided there is no diminution of benefits.

Security of Payments. — Employers must insure in approved companies or mutual associations, or furnish satisfactory proof of financial ability to make payments, or deposit security with the State Insurance Depart-

ment. In case of insolvency of the insurer, a claim for compensation becomes a first lien, and in case of legal incapacity of insured to receive the amount due, the insurer must settle directly with the beneficiary.

Settlement of Disputes. — Disputes may be settled by arbitration.

KANSAS.

Date of Enactment. — March 14, 1911; in effect Jan. 1, 1912; amended March 10, 1913.

Injuries compensated. — Injuries by accident arising out of and in the course of employment, not due to intoxication or deliberate intention of injured employee, or caused by his willful failure to use safeguards provided by statute or furnished by employer, causing incapacity to earn full wages for at least two weeks, or death.

Industries covered. — Railways, factories, quarries, electrical, building or engineering work, laundries, natural gas plants, county and municipal work, employments requiring the use of dangerous, explosive or inflammable materials, if employing five or more persons; and mines without reference to the number of employees, in absence of contrary election; employers of less than five persons may also elect.

Persons compensated. — Private employment: all employees, including apprentices, but excluding casual employees. Public employment: workmen on county and municipal work.

Burden of Payment. — Entire cost rests upon the employer.

Average wage — how computed. — Average earnings to be computed in manner best calculated to give average rate per week for fifty-two weeks prior to accident. If this be impracticable, amount may be fixed with reference to average wages earned by another person in same employment and locality for preceding year. In case of death, earnings for preceding year to be computed on basis of wages for thirty days prior to accident.

Constitutionality. — Constitutionality of act was upheld by Kansas Supreme Court in *Shade v. Ash Grove Lime and Cement Co.*, 144 Pac. 249; also in *Hovis v. Cudahy Ref'g Co.*, 148 Pac. 626.

Waiting Period. — No compensation allowed for incapacity of less than two weeks. Compensation begins at end of second week of incapacity.

Compensation for Death. — (a) To persons wholly dependent a sum equal to three years' earnings of the deceased employee, not less than \$1,200 nor more than \$3,600. For non-resident alien beneficiaries (except in Canada) the maximum is \$750.

(b) If only partial dependents survive, a sum proportionate to the injury to such dependents.

(c) If no dependents are left, a reasonable expense for medical attendance and burial not exceeding \$100.

Compensation ceases upon the marriage of any dependent, or when a minor, not physically or mentally incapable of wage earning, shall become eighteen years of age.

Compensation for Disability. — (a) For total incapacity, payments during incapacity after the second week, equal to 50 per cent. of earnings, but not less than \$6 nor more than \$15 per week.

(b) For partial incapacity, payments during incapacity, after the second week, not less than 25 nor more than 50 per cent. of earnings (not less than \$3 nor more than \$12 per week) except in case of minors earning less than \$10 per week, in which case the compensation shall not be less than 75 per cent. of the earnings.

No payments for total or partial disability shall extend over more than eight years.

After six months lump sum payments may be substituted, as agreed upon or determined by the court.

Revision of Benefits. — Any award may be modified at any time by agreement. After one year either party may demand a revision. Employees must submit to medical examination at reasonable periods to determine their physical condition, but not more than once in two weeks except upon order of court or judge.

Insurance. — The employer may insure in any approved insurance scheme which provides compensation not less favorable than is provided in this act.

Security of Payments. — Lump sums awarded by the court may be secured by order of the court by a good and sufficient bond when there is doubt of security of payment. If the employer was insured, the insurer shall be subrogated to the rights and duties of the employer.

Settlement of Disputes. — Disputes not settled by agreement may be referred to arbitrators, subject to an appeal to courts.

LOUISIANA.

Date of Enactment. — June 18, 1914; in effect Jan. 1, 1915.

Injuries compensated. — Injuries arising out of and in the course of employment, unless due to (1) employee's willful intention to produce injury, (2) his intoxication, (3) deliberate failure to use a device or guard against accident provided by the employer, or (4) deliberate breach of statutory regulations for safety.

Industries covered. — All employees of the State, parish, etc., except public officials; the following private hazardous employments; the operation, construction and maintenance of railroads, vessels, street railways, factories, mills, works, etc., power laundries, foundries, machine shops, slaughter and meat-packing houses, mining plants, quarries, heating and lighting plants, waterworks, coal or lumber yards, bridges, breweries, freight or passenger elevators, refineries, lumbering, excavating, use of an explosive, electrical apparatus, building or metal trades; employments deemed to be hazardous by mutual agreement or by the decision of a court; any other employment by mutual agreement.

Persons compensated. — Private employment: all employees except casual employees. Public employment: all employees except public officials.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages shall be annual earnings divided by 52. When such basis is impracticable, regard may be had to average weekly earnings of another in same employment and locality for preceding year.

Constitutionality. — If any provision of act is held unconstitutional, it shall not affect validity of any other portion which can be given reasonable effect without such invalid provision.

Waiting Period. — First two weeks after injury.

Compensation for Death. — (a) From 20 to 50 per cent. of the average weekly wages, depending upon the number and kinship of dependents.

(b) In all cases reasonable expenses of last sickness and burial, not to exceed \$100.

Compensation ceases upon the marriage of any dependent, or when a minor, not physically or mentally incapable of wage earning, shall become eighteen years of age. This shall not affect payments allowed other dependents.

Compensation for Disability. — (a) Reasonable medical, surgical or hospital services during the first two weeks after injury, not to exceed \$100 in value.

(b) For total incapacity, 50 per cent. of average weekly wages, maximum \$10 weekly, minimum, \$3, or full wages per week; maximum period, three hundred weeks, but if disability is permanent, four hundred weeks.

(c) For partial incapacity, 50 per cent. of the impairment of earning capacity, maximum, \$10 weekly, minimum, \$3, or full wages; maximum period, three hundred weeks.

(d) For certain specified injuries (mutilations, etc.), 50 per cent. of average weekly earnings for fixed periods.

Lump sums may be substituted for periodic payments at any time by mutual agreement, subject to the approval of the court.

Revision of Benefits. — An award may be modified at any time by subsequent agreement between employer and employee, with the court's approval; or after a year from the time the award shall have become operative the court may review the same upon application of either party on the ground that employee's incapacity has increased. An injured employee must submit to medical examination when requested.

Insurance. — Insurance is optional with employers. Insurance policies must cover the entire liability of the employer under the act, and notice to the insured shall be deemed notice to the insurer. All policies are deemed subject to the provisions of the act.

Security of Payments. — No security required, but employer may insure liability for compensation.

Settlement of Disputes. — All questions not settled by agreement are determined by the court after a formal hearing. Either party may appeal from the court's decision. Settlement must be reached, or proceedings begun, within a year after injury or death, otherwise the claim is barred.

MAINE.

Date of Enactment. — April 1, 1915; administrative provisions in effect Oct. 1, 1915, liability provisions in effect Jan. 1, 1916.

Injuries compensated. — Personal injuries by accident arising out of and in the course of employment, unless caused by intention to injure self or another, or due to intoxication without employer's knowledge.

Industries covered. — All employments, except domestic and farm service, and those that are casual or not in the usual course of trade, business, etc., of employer.

Persons compensated. — Private employment: all employees except casual employees, farm laborers, domestic servants, masters of and seamen on vessels engaged in interstate or foreign commerce. Public employment: all employees except casual employees and officials.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be reckoned at one fifty-second of three hundred times average daily wages on full time during preceding year, but if not employed during substantially the whole of such year average wages of another in same occupation and locality may be taken as basis for computation. If such method be not fairly applicable, wages may be computed according to circumstances.

Constitutionality. — If any part of act is held unconstitutional, it shall not affect validity of act as a whole, or any part thereof which can be given effect without invalid portion.

Waiting Period. — First two weeks of disability. Compensation begins on fifteenth day.

Compensation for Death. — (a) To total dependents, fifty per cent. of average weekly wages, maximum, \$10, minimum, \$4, weekly, for three hundred weeks after injury.

(b) To partial dependents, such percentage of foregoing as amount contributed by deceased to such partial dependents bore to annual earnings of deceased.

(c) If no dependents, reasonable expense of last sickness and burial; maximum, \$200.

Compensation for Disability. — (a) Reasonable medical and hospital services as needed during first two weeks after injury; maximum, \$30. In cases of major surgical operation, if parties disagree on cost thereof, commission must fix amount upon petition of either party.

(b) For total disability, 50 per cent. of average weekly wages, maximum, \$10, minimum, \$4, weekly; maximum period, five hundred weeks, maximum amount, \$3,000. Certain injuries conclusively presumed to constitute permanent total disability.

(c) For partial disability, 50 per cent. of average loss in earning power; maximum, \$10 weekly, maximum period, three hundred weeks.

(d) Special schedule for loss of certain members, etc.

Revision of Benefits. — At any time within two years after approval of agreement or entry of decree same may be reviewed by chairman of com-

mission on application of either party, and payments increased, reduced or terminated on ground of increase, diminution or end of incapacity. Agreements may be modified at any time by subsequent agreement, subject to approval by commission. Injured employee must submit to medical examination upon request.

Insurance. — Employer may insure in any casualty or mutual company authorized to do business in Maine.

Security of Payments. — Assenting employers must either insure in authorized stock or mutual casualty company, or furnish proof of ability to pay compensation direct with deposit of cash, bond or securities.

Settlement of Disputes. — Compensation may be settled by agreement, subject to approval of commission; or, upon petition of either party, by chairman of commission after hearing.

MARYLAND.

Date of Enactment. — April 15, 1912; in effect same date. This act repealed. New act in effect Nov. 1, 1914.

Injuries compensated. — Injuries by accident arising out of and in the course of employment, and such disease or infection as may naturally and unavoidably result therefrom, resulting in death or disability, not caused by the injured employee's intoxication, or willful intention to produce such injury. Contract may provide that injury must incapacitate employee for earning full wages for at least one week.

Industries covered. — All "extra hazardous employments," including the operation, construction and maintenance of railways operated by steam, electric or other motive power, longshore work, telephone, telegraph or other electrical work, operation of vessels, shipbuilding, submarine construction, work in tunnels and subways, mines and quarries, manufactories, in foundries, the operation of stationary engines, using or working near explosives, work in mills, distilleries, packing houses, power laundries, tanneries, bakeries, etc., lumbering, stone cutting, and all other extra hazardous employments, excepting farm laborers, domestics, blacksmiths and similar rural employees, and any employee whose salary is over \$2,000 a year. Any other employment may be brought under act by joint election.

Persons compensated. — Private employment: all employees who agree to accept this law. Public employment: all public employments in the enumerated occupations.

Burden of Payment. — Entire burden rests on employer.

Average Wages — how computed. — Average weekly wages to be based on full-time employment. Regard may also be had to fact that employee was of such age and experience that his wages would be expected to increase.

Constitutionality. — No provision.

Waiting Period. — First two weeks after injury, but, in case of permanent total disability, one week.

Compensation for Death. — (a) To persons wholly dependent, one-half of average weekly wages, to continue for remainder of period between

date of death and eight years after injury; maximum, \$4,250, minimum, \$1,000.

(b) If only partial dependents survive, same payments to continue for such portion of eight-year period as commission may determine; maximum, \$3,000.

(c) If no dependents, reasonable funeral expenses, maximum, \$75, unless deceased has left sufficient estate to defray same.

Compensation for Disability. — (a) Medical and hospital services not to exceed \$150 in value.

(b) In case of total disability, a weekly payment of 50 per cent. of the average weekly wages, to be paid during the period of disability, maximum, \$12, minimum, \$5, or full wages during continuance of disability, but not to exceed in aggregate \$5,000. If temporary, same payments to continue during disability, but not longer than six years nor to exceed in aggregate \$3,750.

(c) In case of partial disability, if permanent, special schedule for loss of certain members, etc.; in other cases, 50 per cent. of impairment of earning capacity, maximum, \$12 weekly, during incapacity, but not to exceed in aggregate \$3,000. If temporary, same payments during incapacity, but not to exceed in aggregate \$3,500.

The commission may in its discretion allow lump sum payments in every case, except temporary disability. If beneficiary has resided outside State for a year the commission may convert future payments into lump sums by paying three-fourths of the then value thereof, not to exceed \$2,400.

Revision of Benefits. — The commission may make such modifications of awards as in its opinion may be justified, or may readjust or terminate the payments on the ground of change of conditions. Employees must submit to physical examination as required by commission.

Insurance. — Employers must furnish proof of financial ability to pay required compensation or insure in an authorized company, or insure in the State accident fund.

Security of Payments. — In case of insolvency of employer the insurer shall not be discharged from obligation. Employers must furnish proof of financial ability to pay compensation or insure in approved companies, or with the State.

Settlement of Disputes. — Disputes are settled by commission, or by an arbitration committee appointed by the commission, subject to an appeal to courts.

MASSACHUSETTS.

Date of Enactment. — July 28, 1911; in effect July 1, 1912; amended May 10, 1912; Feb. 4, 1913; April 7, 1913; April 28, 1913; and May 22, 1913. Latest amendments effective April 11, June 25 and Oct. 1, 1914.

Injuries compensated. — Injuries arising out of and in the course of employment causing incapacity for two weeks, or death, unless the injury is due to the serious and willful misconduct of the injured employee.

Industries covered. — All industries, if the employer so elects, except those not in the usual course of the trade, business, etc., of employer, or on vessels in foreign or interstate commerce.

Persons compensated. — Private employment: all employees except masters of vessels and seamen engaged in interstate or foreign commerce and casual employees. Public employment: the state shall and any county, city, town or district having power of taxation may compensate laborers, workmen and mechanics. The question shall be submitted to the voters each year, except as to the State.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to mean earnings for preceding year divided by 52, but if employee lost more than two weeks' time, such loss to be deducted from 52. Where this plan is not practicable, regard may be had to average wages of another person in same employment and locality.

Constitutionality. — Constitutionality of act upheld in Opinion of Justices, 209 Mass. 607; 96 N. E. Rep. 308.

Waiting Period. — First two weeks of disability. Compensation begins on fifteenth day after injury.

Compensation for Death. — (a) To persons wholly dependent, a weekly payment equal to two-thirds the average weekly wages of the deceased employee, but not less than \$4 nor more than \$10, for a period of five hundred weeks; maximum amount, \$4,000.

(b) If only partial dependents survive, a sum proportionate to the portion of earnings contributed to their support by the deceased employee.

(c) If no dependents, the reasonable expense of last sickness and burial, not to exceed \$200.

Compensation for Disability. — (a) Reasonable medical and hospital services, and medicines as needed, for the first two weeks after injury, or for a longer period, at the discretion of the Board.

(b) For total disability, a sum equal to two-thirds the average weekly wages, but not less than \$4 nor more than \$10 per week, not exceeding five hundred weeks nor \$4,000 in amount.

(c) For partial disability, two-thirds the wage loss, but not to exceed \$10 per week and for not longer than five hundred weeks; maximum amount, \$4,000.

(d) In specified injuries (mutilation, etc.) a sum not exceeding \$10 nor less than \$4 per week for fixed periods, in addition to other compensation.

A lump sum payment may be substituted after payments for injury or death have been made for not less than six months. In case of a minor permanently disabled Board may in its discretion award a lump sum at any time.

Revision of Benefits. — Either party may demand a revision of payment at any time. Employees must submit to medical examination to determine their physical condition when requested by the employer.

Insurance. — Employer may become a subscriber of the Massachusetts

Employees' Insurance Association, or insure in some authorized liability insurance company.

Security of Payments. — Assenting employers must insure either in the Massachusetts Employees Insurance Association, or in some company authorized by the State to do business.

Settlement of Dispute. — On request of either party the Industrial Accident Board calls for a committee of arbitration, whose decision is subject to review by the Industrial Accident Board.

MICHIGAN.

Date of Enactment. — March 20, 1912; in effect Sept. 1, 1912; amended April 10, 1913; April 16, 1913; May 2, 1913; and May 7, 1913.

Injuries compensated. — Injuries causing incapacity to earn full wages for a period of two weeks, or death, arising out of and in the course of employment, unless such injuries resulted from intentional and willful misconduct of the injured person.

Industries covered. — Compulsory as to the State and its municipalities, and each incorporated public board and commission authorized to hold property and to sue and be sued; all industries having one or more persons in service under contract of hire, if the employer elects.

Persons compensated. — Private employment: all employees, including aliens and minors, except casual employees. Public employment: all employees except officials of the State or of a municipality.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be one-fifty-second of average annual earnings. If not employed in the same occupation for substantially a year preceding, average annual earnings to be three hundred times average daily wage while so employed, or three hundred times average daily wage of another person in same occupation and locality. If such method is not practicable, average annual earnings may be determined with regard to circumstances.

Constitutionality. — If compensation provisions are adjudged unconstitutional, period between injury or death and such adjudication not to be computed as part of time limitation for commencement of damage suit. If Part V. is adjudged unconstitutional, remainder of act not to be affected thereby.

Waiting Period. — First two weeks' disability. Compensation commences fifteenth day after disability, but if disability continues eight weeks, compensation payable from date of injury.

Compensation for Death. — (a) To persons wholly dependent, a weekly payment equal to one-half the deceased workmen's earnings, but not less than \$4 nor more than \$10 per week for a period of three hundred weeks.

(b) If only partial dependents survive, such proportion of the above as the amount of previous contributions bears to such earnings.

(c) If no dependents, the reasonable expense of the last sickness and burial, not exceeding \$200.

Compensation for Disability. — (a) Reasonable medical and hospital services for the first three weeks.

(b) For total incapacity, a weekly payment equal to one-half the earnings, but not less than \$4 nor more than \$10 per week, nor for a period longer than five hundred weeks from the date of the injury, and not exceeding \$4,000.

(c) For partial incapacity, a weekly payment equal to one-half the wage loss, but not more than \$10 per week, and for not longer than three hundred weeks.

(d) For certain specified injuries (mutilations, etc.), 50 per cent. of average weekly earnings for fixed periods.

After six months lump sums may be substituted for weekly payments.

Revision of Benefits. — Weekly payments may be reviewed by the Industrial Accident Board at the request of either party. An injured employee must submit to medical examination when requested.

Insurance. — Employer may furnish proof of financial ability to pay the required compensation, or insure in an authorized employers' liability company, or in an employers' insurance association organized under State laws, or become a member of a State insurance fund administered by the State Commissioner of Insurance.

Security of Payments. — Employers must furnish proof of financial ability to pay compensation, or insure in approved companies or with the State.

Settlement of Disputes. — Either party may request the Industrial Accident Board to appoint a committee of arbitration whose decisions are subject to review by the Board. The Supreme Court may review questions of law.

MINNESOTA.

Date of Enactment. — April 24, 1913; in effect Oct. 1, 1913.

Injuries compensated. — Injury by accident arising out of and in the course of employment causing disability for more than two weeks, or death, unless intentionally caused, or due to the intoxication of the injured person.

Industries covered. — All excepting interstate or foreign commerce and farm and domestic service, in the absence of contrary election by employers.

Persons compensated. — Private employment: all employees, including aliens and minors, in the absence of contrary election, casual employees excepted. Public employment: all persons in the service of a county, city, town, village or school district, excluding public officials elected or appointed for regular terms.

Burden of Payment. — Cost rests upon the employer.

Average Wages — how computed. — No provision.

Constitutionality. — If any provision of act is held unconstitutional, it shall not affect remaining portions. Constitutionality of act upheld by Supreme Court of Minnesota.

Waiting Period. — First two weeks after injury in cases of temporary disability.

Compensation for Death. — (a) To a widow alone, 35 per cent. of monthly wages of deceased, increasing to 60 per cent. if four or more children; to a dependent husband alone, 25 per cent.; to a dependent orphan, 40 per cent., with 10 per cent. additional for each orphan in excess of two, with a maximum of 60 per cent.; to the dependent parent or parents, if no dependent widow, widower or children, 25 per cent. if one parent and 35 per cent. if both survive; if none of the foregoing, but a brother, sister or grandparent is wholly dependent, if but one such relative, 25 per cent., or if more than one, 30 per cent., divided equally.

(b) If only partial dependents survive, full amount of their income loss.

(c) In all cases expense of last sickness and burial not exceeding \$100, in addition to medical and hospital services provided in case of disability.

Payments cease when a minor child reaches the age of eighteen, unless physically or mentally incapacitated for earning, and upon the death or marriage of other dependents unless otherwise specified.

Compensation for Disability. — (a) Reasonable medical and surgical treatment, not exceeding ninety days nor \$200 in value.

(b) For total disability, 50 per cent. of wages; minimum, \$6.50, maximum, \$11, etc.

(c) For temporary partial disability, 50 per cent. of the wage loss.

(d) For specified permanent partial disability (mutilations, etc.), 50 per cent. of the earnings for fixed periods.

Payment for death or disability may not be less than \$6.50 nor more than \$11 per week, unless the wages were less than \$6.50 when the amount of wages is paid. Payments may not extend beyond three hundred weeks except for permanent total disability, when the maximum is four hundred weeks. In case of certain severe injuries, maximum period is five hundred and fifty weeks, maximum total, \$5,000.

Lump sums may be substituted for periodical payments, but in case of compensation for death, permanent total disability or certain maimings the consent of the court must be obtained.

Revision of Benefits. — After six months from the date of an award either party may apply to the court for revision. The employee must submit to medical examination when requested.

Insurance. — Employers may insure in any authorized company, stock or mutual, or maintain co-operative schemes, assuming other and greater risks and other classes of industrial insurance.

Security of Payments. — No security required, but employer may insure his liability to pay compensation.

Settlement of Disputes. — Either party may submit a claim to the judge of the district court, who shall determine such dispute in a summary manner, subject to review by the Supreme Court as to questions of law.

MONTANA.

Date of Enactment. — March 8, 1915; administrative provisions in effect March 8, 1915; liability provisions in effect July 1, 1915.

Injuries compensated. — Injuries arising out of and in the course of employment, but not disease. Special restrictions applicable in case of hernia.

Industries covered. — All public and private, in hazardous occupations enumerated.

Persons compensated. — Private employment: all employees in enumerated occupations. Public employment: all employees in enumerated occupations.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Wages to mean average daily wages at time of injury, excluding overtime. If payment is made otherwise than in money or its equivalent, the going wage for similar work in same locality to govern.

Constitutionality. — If any part of act is held unconstitutional it shall not affect the remainder, so long as sufficient remains to render act operative.

Waiting Period. — First two weeks after injury.

Compensation for Death. — (a) In all cases, if death occurs within six months, reasonable burial expenses; maximum, \$75.

(b) From 30 to 50 per cent. of wages, according to kinship of dependents, maximum, \$10, minimum, \$6, or full wages, weekly; maximum period, four hundred weeks, including period of disability payments, if any.

(c) If death is not due to injury, no further liability for compensation.

Compensation for Disability. — (a) During first two weeks after injury, reasonable medical and hospital services, etc.; maximum, \$50. Co-operative hospitals or hospital contracts authorized in lieu of foregoing provision, subject to regulation by Board. Special operative fee of \$50 allowed in case of hernia.

(b) For total disability, 50 per cent. of wages, maximum, \$10, minimum, \$6, or full wages weekly, maximum period, three hundred weeks, if temporary; if permanent, to continue for four hundred weeks, and thereafter at rate of \$5 weekly.

(c) For partial disability, 50 per cent. of loss of earning power, maximum \$10, minimum, \$6, or full wages, weekly, including wages earned; maximum period, one hundred and fifty weeks if permanent, fifty weeks if temporary.

(d) Special schedule for loss of certain members, etc.

Revision of Benefits. — In case of aggravation, diminution or termination of disability payments may be readjusted or ended. Board has continuing jurisdiction over previous findings, and may, upon notice and opportunity for hearing, rescind or amend any decision or award. Employee must submit to medical examination upon request.

Insurance. — Act provides for creation of industrial accident fund to be administered by Board. Employer may insure liability for compensation in any company authorized to transact such business in the State.

Security of Payments. — Employer must insure in industrial accident fund, or with any authorized insurance company, or furnish satisfactory

proof of financial ability to pay compensation direct, with bond or other security.

Settlement of Disputes. — All disputed questions to be determined by Board, subject to rehearing on certain specified grounds.

NEBRASKA.

Date of Enactment. — April 21, 1913; in effect Dec. 1, 1914.

Injuries compensated. — Injury causing disability for more than fourteen days, or death, caused by accident arising out of and in the course of employment, except accident caused by or resulting in any degree from willful negligence or intoxication.

Industries covered. — All industries where five or more persons are employed by the employer in the regular trade, business or occupation of the employer, except domestic service, agriculture and interstate or foreign commerce, in the absence of contrary election. Exempted employers may make an affirmative election.

Persons compensated. — Private employment: all employees, including aliens and minors, but excluding casual employees, and home workers. Public employment: all persons employed by the State, or any government agency created by the State, not having been elected or appointed for a regular term.

Burden of Payment. — The entire cost rests upon the employer.

Average Wages — how computed. — In continuous employments weekly wages to be five and one-half times average daily earnings, excluding overtime, during preceding six months. In seasonal employments, average weekly wages to be one-fiftieth of earnings from all occupations for preceding year or longer period, according to circumstances. Wages not to include gratuities, board, lodging, etc., unless value thereof fixed at time of hiring.

Constitutionality. — If compensation provisions of act are repealed or held invalid, period between injury or death and such decision not to be computed as part of time limited by law for commencement of damage suit. If any provision of act is held unconstitutional, it shall not affect remainder, except that Parts I. and II. are declared to be inseparable.

Waiting Period. — First fourteen days' disability, unless disability lasts eight weeks, when compensation is paid from date of injury.

Compensation for Death. — (a) In addition to any other benefits, a reasonable amount not exceeding \$100 to cover expenses of last sickness and burial.

(b) To persons wholly dependent, 50 per cent. of the employee's wages, but not less than \$5 nor more than \$10 per week during dependency, and not exceeding three hundred and fifty weeks; if the wages of the deceased were less than \$5 per week, then full wages are to be paid as compensation.

(c) If only partial dependents survive, a proportion of the above corresponding to the relation the contribution of the deceased to their support bore to his wages.

Compensation to children ceases when they reach the age of sixteen years, unless they are physically or mentally incapacitated for earning.

Compensation for Disability. — (a) Medical and hospital services during the first twenty-one days, not exceeding \$200 in value.

(b) For total disability, one-half of the weekly wages, but not less than \$5 or more than \$10 per week for three hundred weeks; thereafter, while disability lasts, 40 per cent. of such wages, but not less than \$4 or more than \$8 per week, provided, however, if weekly wages are less than the minimum, compensation to amount of full wages is to be paid.

(c) For partial disability, 50 per cent. of loss of earning capacity, but not exceeding \$10 per week nor exceeding three hundred weeks.

(d) For certain specified injuries (mutilations, etc.), 50 per cent. of wages for fixed periods, with the same limits as to amounts as above.

Lump sums may be substituted for periodic payments, but if for death or permanent disability, the approval of the court must be obtained.

Revision of Benefits. — Benefits running for a period of six months or longer may be revised at any time by agreement of the parties, or after six months by application to a court.

Insurance. — An employer may insure his liability for compensation in any authorized stock or mutual insurance company.

Security of Payments. — No security required, but employer may insure his liability for compensation.

Settlement of Disputes. — Questions may be submitted to arbitration by mutual consent, or either party may submit a claim to the district court of county to be heard and determined as a cause in equity, with the right of appeal to the Supreme Court.

NEVADA.

Date of Enactment. — March 15, 1913; in effect July 1, 1913.

Injuries compensated. — Injuries arising out of and in the usual course of employment, causing incapacity to earn full wages for a period of two weeks, or death, except when caused by the employee's willful intention to injure himself or another, or if the injury is sustained while intoxicated.

Industries covered. — All in which two or more persons are employed, except domestic and farm labor, in the absence of contrary election; compulsory as to the State and its municipalities regardless of the number of employees.

Persons compensated. — Private employment: all employees in the industries covered. Public employment: all employees.

Burden of Payment. — The entire cost rests upon the employer.

Average Wages — how computed. — No provision.

Constitutionality. — If provision for insurance fund, or provision making compensation exclusive remedy, is held invalid, entire act shall be invalid, except provision for accounting of insurance fund; but in other respects, invalidity of portion of act not to affect remainder. If compensation provisions are held invalid, period between injury or death and such

adjudication not to be computed as part of time limited for commencement of action for damages.

Waiting Period. — No compensation unless disability lasts at least five days. If incapacity extends beyond seven days, compensation begins on eighth day after injury, but if it lasts two weeks or longer, compensation to be computed from date of injury.

Compensation for Death. — (a) To total dependents of the deceased employee, other than children alone, a sum from 40 to 60 per cent. of his average monthly earnings, but not less than \$20 nor more than \$60 per month for a period of one hundred months; maximum amount, \$4,000, \$5,000 or \$6,000, according to circumstances.

(b) To children under sixteen, if there be no dependent widow or widower, monthly payment, maximum, \$35, minimum, \$10, amount and duration of payments to be fixed by commission.

(c) To partial dependents, such proportion of amounts payable to total dependents as amount contributed by employee to their support bore to his average wages; maximum period, one hundred months.

(d) Upon remarriage of widow, lump sum equal to twelve times her monthly allowance; maximum, \$300.

(e) In all cases, expenses of the last sickness and burial of the deceased employee, not to exceed \$125.

Compensation for Disability. — (a) Medical and hospital services as reasonably required after injury; maximum period, four months.

(b) For total disability, an amount equal to 50 per cent. of the average monthly wages, but not less than \$20 nor more than \$60 per month for one hundred months, the total amount not to exceed \$5,000.

(c) For partial disability, one-half the loss of earning capacity, but not more than \$40 per month for a period not to exceed sixty months.

(d) For certain specific injuries (mutilations, etc.), subject to a minimum of \$20 and a maximum of \$60 per month, a monthly payment equal to 50 per cent. of average monthly wages for fixed periods.

The industrial commission may permit substitution of lump sum payments for monthly payments, but no such payment shall exceed \$5,000.

Revision of Benefits. — Rearrangement of compensation may be made by the Industrial Commission when application is made therefor.

Insurance. — Employers coming under this act must insure in the State insurance fund.

Security of Payments. — State management of the insurance fund and collection of premiums by the State.

Settlement of Disputes. — All matters relating to the amount of compensation to be paid are determined by the Industrial Commission.

NEW HAMPSHIRE.

Date of Enactment. — April 15, 1911; in effect Jan. 1, 1912.

Injuries compensated. — Any injury to an employee arising out of and in the course of employment causing disability of over two weeks, or death, unless due to willful misconduct, intoxication or violation of law.

Industries covered. — Industries dangerous to life or limb, including the operation and maintenance of steam and electric railroads, work in shops, mills, factories, in connection with or in proximity to any hoisting apparatus, etc., employing five or more persons; work about lines or cables charged with electricity; operations dangerously near explosives used in the industry, or to a steam boiler owned and operated by the employer; and work in or about any quarry, mine or foundry; provided the employer elects.

Persons compensated. — Private employment: all workmen engaged in any of the employments covered by this law. Public employment: government employees are not mentioned.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages based on earnings when at work on full time during preceding year or less with same employer.

Constitutionality. — Constitutionality of act upheld by Supreme Court of New Hampshire in *Wheeler v. Contoocook Milk Corporation*, 94 Atlantic 265.

Waiting Period. — First two weeks of disability. If disability continues longer, compensation begins end of second week after injury.

Compensation for Death. — (a) To persons wholly dependent, a sum equal to one hundred and fifty times the average weekly earnings of the deceased, not to exceed \$3,000.

(b) If only partial dependents survive, such proportion of the above compensation as corresponds to the portion of wages contributed to their support.

(c) If no dependents are left, expenses of medical care and burial to a reasonable amount, not in excess of \$100.

Compensation for Disability. — (a) For total disability, a sum beginning with the fifteenth day, not exceeding 50 per cent. of average weekly earnings.

(b) For partial disability, 50 per cent. of the loss of earning capacity.

In no case is compensation to exceed \$10 a week nor run for a longer period than three hundred weeks.

The court may determine the amount of lump sums payable as a substitute for weekly payments.

Revision of Benefits. — No provision.

Insurance. — No provision.

Security of Payments. — The employer must satisfy the Commissioner of Labor of his ability to pay the required compensation, or file a bond conditioned on the discharge of all liability incurred under this act.

Settlement of Disputes. — All questions not settled by agreement are determined by an action in equity.

NEW JERSEY.

Date of Enactment. — April 4, 1911; in effect July 1, 1911; amended May 2, 1911, April 1, 1912, March 27, 1913, and April 9, 1913.

Injuries compensated. — Injury by accident arising out of and in the course of employment causing disability of over two weeks, or death, unless intentionally self-inflicted or due to intoxication.

Industries covered. — All employments in the absence of contrary election.

Persons compensated. — Private employment: all employees except casual. Non-resident aliens receive no benefits. Public employment: every employee of the State, county, municipality, board or commission, or other governing body, including boards of education, except persons receiving a salary greater than \$1,200 per year, and those holding an elective office.

Burden of Payment. — The entire cost rests upon the employer.

Average Wages — how computed. — Wages to mean rate of earning as fixed in contract of hiring, not including board, lodging or gratuities, unless money value thereof fixed at time of hiring. If earnings depend on output of employee, weekly wages to be six times average daily earnings, excluding overtime, during preceding six months if with same employer.

Constitutionality. — If any provision of act is held unconstitutional, it shall not affect remainder, except that sections 1 and 2 are declared to be inseparable. Constitutionality of act upheld by Court of Errors and Appeals.

Waiting Period. — First two weeks after injury. Compensation begins fifteenth day after injury.

Compensation for Death. — (a) To one dependent, 35 per cent. of the wages of the deceased person, and for each additional dependent 5 per cent. additional, the total not to exceed 60 per cent., payable for not more than three hundred weeks. Compensation not to be less than \$5 nor more than \$10 per week, unless the earnings were less than \$5, when full wages are paid.

(b) In all cases, the expense of the last sickness and of burial, the cost of burial not to exceed \$100.

Payments to widows cease on remarriage, and to orphans on reaching the age of eighteen, unless physically or mentally deficient.

Compensation for Disability. — (a) Reasonable medical and hospital services for the first two weeks of incapacity, not exceeding \$50 in value.

(b) For temporary total disability, 50 per cent. of wages, payable during disability but not beyond three hundred weeks.

(c) For permanent total disability, 50 per cent. of wages during such disability, not beyond four hundred weeks.

(d) For partial disability, if permanent, payments of 50 per cent. of daily wages based upon the extent of the disability.

(e) For certain specific injuries (mutilation, etc.), producing partial but permanent disabilities, 50 per cent. of wages during fixed periods.

All weekly payments are subject to the same rule, as to minimum and maximum, as death benefits.

A lump sum payment may be substituted at the discretion of the Court of Common Pleas.

Revision of Benefits. — At any time after one year after an award has been made either party may demand a revision of benefits. Employee must submit himself for examination if reasonably requested.

Insurance. — No provision.

Security of Payments. — No provision.

Settlement of Disputes. — Either party may submit a claim to the judge of the Court of Common Pleas, who shall hear and determine such disputes in a summary manner, subject to review of questions of law by the Supreme Court.

NEW YORK.

Date of Enactment. — Dec. 16, 1913; in effect July 1, 1914.

Injuries compensated. — Accidental injuries arising out of and in course of employment, and disease or infection naturally and unavoidably resulting therefrom, causing disability for more than two weeks, or death, unless caused by the willful intention of the injured employee to bring about the injury or death of himself or another, or by his intoxication while on duty.

Industries covered. — "Hazardous employments," including construction, maintenance and operation of steam and street railroads; telegraph, telephone and other electrical construction, installation or operation; foundries, machine shops and power plants; stone cutting or dressing; manufactures, tanneries, laundries, printing and bookbinding; ship-building and repair, and the use of vessels in intrastate commerce; work in mines, quarries, tunnels, subways, shaft sinking, etc.; engineering work, and the construction, repair and demolition of buildings and bridges; lumbering, draying, loading and unloading.

Persons compensated. — Private employment: all employees in industries covered, farm laborers and domestic servants not included. Public employment: employees of the State.

Burden of Payment. — Entire cost rests on employer.

Average Wages — how computed. — Average weekly wages to be one-fifty-second of average annual earnings; later, to be three hundred times average daily wage during preceding year, if employed substantially a whole year, otherwise three hundred times average daily wage of another in same occupation and locality. If injured employee is a minor whose wages would normally be expected to increase, this may be taken into consideration. Wages to include reasonable value of board, lodging, etc.

Constitutionality. — If any provision of act is held unconstitutional, it shall not affect validity of remainder. Amendment to State Constitution, embodied in section 19, Art. I., ratified by popular vote, provides there shall be no constitutional limit on power of Legislature to enact compensation or safety laws. Constitutionality of act upheld by New York Court of Appeals.

Waiting Period. — First fourteen days of disability.

Compensation for Death. — (a) One hundred dollars for funeral expenses.

(b) To a widow or dependent widower alone, 30 per cent. of wages of deceased, 10 per cent. additional for each child under eighteen; dependent orphans under eighteen receive 15 per cent. each, and dependent parents, brothers or sisters receive 15 per cent. each; aggregate payments in no case to exceed 66 $\frac{2}{3}$ per cent. of wages.

(c) Payments to widow or widower cease on death or remarriage or when dependence of widow ceases, with two years' compensation on remarriage; payments to children, brothers and sisters cease at eighteen, and to parents when dependence ceases.

In computing the above benefits no wages in excess of \$100 monthly are considered.

Compensation for Disability. — (a) Medical and surgical treatment and hospital services for sixty days, costs to be approved by the commission.

(b) For total disability, 66 $\frac{2}{3}$ per cent. of wages during disability; if permanent, for life; if temporary, during disability, but not to exceed in aggregate \$3,500.

(c) For partial disability, 66 $\frac{2}{3}$ per cent. of wage loss; for specified permanent partial disabilities (mutilations, etc.), 66 $\frac{2}{3}$ per cent. of wages for fixed periods.

The foregoing payments may not be less than \$5 unless wages are less than \$5, in which case full wages; not more than \$15 per week; except for certain maimings the maximum may be \$20.

Revision of Benefits. — Awards may be reviewed at any time, and ended or increased or decreased within the limits fixed.

Insurance. — Employer may give proof of financial ability to make payments (deposit of securities may be required), or must insure in State fund or mutual or stock company.

Security of Payments. — Insurance in State fund, authorized company or mutual association is compulsory, with alternative to employer to carry own risks on proof of financial responsibility.

Settlement of Disputes. — Disputes are settled by the State Workmen's Compensation Commission, with appeals to courts.

OHIO.

Date of Enactment. — June 15, 1911; in effect Jan. 1, 1912; amended March 14, 1913, May 7, 1913, and Feb. 17, 1914.

Injuries compensated. — All injuries not self-inflicted, received in the course of employment, causing disability beyond one week, or death.

Industries covered. — All industries employing five or more persons regularly in the same business; also establishments with less than five workmen, if the employer elects to pay the premiums provided by this act.

Persons compensated. — Private employment: all employees, excluding casual workers, but including aliens and minors lawfully employed. Public employment: persons in the service of the State, or its political subdivi-

sions, excepting the officials of the State or municipal governments, and policemen and firemen in cities where pension funds are established and maintained by municipal authority.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wage at time of injury to be taken as basis upon which to compute benefits. If employee is of such age and experience when injured as that, under natural conditions, his wages would be expected to increase, this fact may be considered.

Constitutionality. — If any part of act is held unconstitutional it shall not affect validity of remainder. Constitutionality of act upheld by Ohio Supreme Court.

Waiting Period. — First week after injury.

Compensation for Death. — If injury causes death within two years.

(a) Burial expenses not to exceed \$150.

(b) To persons wholly dependent, 66⅔ per cent. of the average weekly earnings of the deceased workman for six years after the date of the injury, not less than \$1,500 nor more than \$3,750.

(c) If only partial dependents survive, a proportionate sum to continue for all or such portion of the period of six years as the State Liability Board may determine in each case, not exceeding a maximum of \$3,750.

Compensation for Disability. — (a) Medical, hospital, etc., services, not to exceed \$200.

(b) For total temporary disability, a weekly payment of 66⅔ per cent. of average weekly wages during disability, not less than \$5 nor more than \$12 per week, but not for longer than six years nor exceeding \$3,750.

(c) For total permanent disability, a weekly payment as above, continuing until death.

(d) For partial disability, 66⅔ per cent. of loss of earning capacity during the continuance thereof, but not exceeding \$12 per week or a total of \$3,750.

(e) For certain specified injuries (mutilation, etc.), compensation of 66⅔ per cent. of wages for fixed periods, with the same maximum and minimum limitations noted above.

In all cases if wages are less than prescribed minimum, then total wages are paid as compensation; an expected increase in wages may be given consideration.

Revision of Benefits. — The State Liability Board may from time to time make such modification or change in its former findings of fact as it deems necessary.

Insurance. — The law creates a State insurance fund, under control of a State Liability Board. Other schemes are permitted, provided benefits equal to those provided by the State insurance fund are guaranteed employees at the employer's cost.

Security of Payments. — By State insurance, or if employer elects to carry his own risk commission may require bond or other security for payment of compensation.

Settlement of Disputes. — The Board hears and determines all cases within its jurisdiction, limited right of appeal to the civil courts being reserved to the claimant.

OKLAHOMA.

Date of Enactment. — March 22, 1915; administrative provisions in effect July 1, 1915; liability provisions in effect Sept. 1, 1915.

Injuries compensated. — Accidental personal injuries arising out of and in course of employment, and such disease or infection as may result therefrom, unless due to intent to injure self or another, to intoxication while on duty, or failure to use safeguard provided.

Industries covered. — Hazardous employments as defined where more than two are employed, except farm, ranch or dairy service or mercantile pursuits. Act extends to State, counties, etc., unless equal or better provision is made by statute for employees thereof.

Persons compensated. — Private employment: all employees except those engaged in farm, ranch, dairy service or mercantile pursuits. Public employment: all employees unless better provision is made by statute.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be one-fifty-second of average annual earnings; latter to be three hundred times average daily wage during preceding year if employed for substantially whole of year; otherwise three hundred times average daily wage of another in same class of employment and locality. If injured employee was a minor, whose wages would normally be expected to increase, this may be taken into consideration. Wages to include reasonable value of board, lodging, etc.

Constitutionality. — If any part of act is held unconstitutional it shall not affect the validity of the act as a whole or any other part thereof.

Waiting Period. — First fourteen days of disability.

Compensation for Death. — Act is not intended to apply in cases of accident resulting in death. This provision is inserted to safeguard constitutionality of act.

Compensation for Disability. — (a) Such medical aid, including crutches, apparatus, etc., as may be necessary during fifteen days after injury.

(b) For total disability, 50 per cent. of average weekly wages, maximum, \$10, minimum, \$6, weekly, but if employee's wages are less than \$6 weekly, then full wages; maximum period, if permanent, five hundred weeks; if temporary, three hundred weeks. Certain severe injuries presumed to constitute permanent total disability.

(c) For partial disability, if permanent, 50 per cent. of average weekly wages for period ranging from five to two hundred and fifty weeks, according to nature of injury; if temporary, 50 per cent. of average loss of earning power, maximum period, three hundred weeks. Such payments are in lieu of other compensation and are subject to same limitations as in case of total disability.

Revision of Benefits. — Upon its own motion, or upon application of any party in interest, commission may at any time review and modify an award. Commission's jurisdiction is continuing, and from time to time it may modify any previous orders or findings as it may deem just. Employee must submit to medical examination upon request.

Insurance. — Employer may insure in any authorized stock corporation or with any mutual association.

Security of Payments. — Employer is required to secure compensation by insuring in an authorized stock company, mutual association or guaranty company; or must furnish proof of financial ability to pay compensation himself, with deposit of bond or securities if required by commission.

Settlement of Disputes. — In case of dispute, claim to be settled by commission, who must order a hearing upon application of either party. Hearing may be conducted by arbitration committee of three appointed by commission. Award must be made or denied within thirty days after filing of claim or close of hearing.

OREGON.

Date of Enactment. — Feb. 25, 1913; administrative provisions in effect Nov. 4, 1913; liability provisions in effect July 1, 1914.

Injuries compensated. — Injuries by accident arising out of and in the course of employment, except those brought about intentionally.

Industries covered. — All hazardous occupations, including factories, mills and workshops employing machinery; mines, quarries, wharves and docks, dredges, engineering works; building trades; telegraph, telephone, electric light and power plants or lines, steamboats, tugs and ferries; all in absence of contrary election. Other employers may accept the law by affirmative election.

Persons compensated. — Private employment: any workman employed as above in absence of contrary election. Non-resident alien beneficiaries, other than parent, spouse or child, are not included unless otherwise provided by treaty. Public employment: not included.

Burden of Payment. — The employer deducts five-tenths of one per cent. of employee's monthly earnings, not less, however, than 25 cents per month, and himself contributes six times this amount. The State gives a subsidy.

Average Wages — how computed. — Monthly wage to be twenty-six times daily wage.

Constitutionality. — No provision.

Waiting Period. — None.

Compensation for Death. — (a) Burial expenses not to exceed \$100.

(b) To widow or invalid widower, a monthly payment of \$30, and to each child under sixteen (daughters, eighteen) \$6 a month, the total monthly payment not to exceed \$50.

(c) To orphans under sixteen years of age (daughters, eighteen), a monthly payment of \$15 each; the total not to exceed \$50.

(d) To other dependents, there being none of the foregoing, a monthly payment to each of 50 per cent. of the average support received during the preceding year, but not to exceed \$30 a month in all.

(e) To parents of an unmarried minor, a monthly payment of \$25, until such time as he would have been twenty-one, after which time compensation shall be paid according to (d) above.

Payments to widow or widower continue until death or remarriage. On remarriage of widow she receives a lump sum of \$300. Payments to a male child cease at sixteen and to a female at eighteen, unless the child is an invalid.

Compensation for Disability. — (a) Transportation, medical, surgical and hospital expenses not exceeding \$250 in value.

(b) For permanent total disability, monthly payments, as follows: (1) if unmarried at the time of the injury, \$30; (2) if with wife or invalid husband, but no child under sixteen years, \$35; if the husband is not an invalid the sum is \$30; (3) if married or a widow or widower with a child or children under sixteen years, \$6 additional to the provision under (2) above for each child until sixteen years of age; the total monthly payments not to exceed \$50.

(c) For temporary total disability, the above payments apply during disability, increased 50 per cent. for first six months, but in no case to exceed 60 per cent. of monthly wages.

(d) For partial, temporary disability, a proportionate amount, corresponding to loss of earning power, for not exceeding two years.

(e) For certain specified injuries (mutilations, etc.), monthly payment of \$25 per month payable for fixed periods. A lump sum at the option of the injured person is provided in some cases.

Partial lump sum payments to any beneficiary may be substituted at the discretion of the commission.

Revision of Benefits. — The rate of compensation may be readjusted either upon the application of the beneficiary or by the State Industrial Accident Commission, upon its own initiative. Employee must submit himself for medical examination as often as reasonably requested.

Insurance. — Insurance is effected through the State industrial accident fund, under supervision of the State Industrial Commission.

Security of Payments. — Insurance under State control.

Settlement of Disputes. — Any decision of the commission is subject to review by the circuit court, and appeals lie from the circuit court as in other civil cases.

PENNSYLVANIA.

Date of Enactment. — June 2, 1915, in effect Jan. 1, 1916.

Injuries compensated. — Injuries sustained by accident in the course of employment, and such disease or infection as naturally results therefrom, unless purposely self-inflicted.

Industries covered. — All employments, except those that are casual and not in the regular course of employer's business, and those pertaining

to outworkers. Domestic and agricultural service excluded by special enactment.

Persons compensated. — Private employment: all employees, except casual employees and outworkers, domestic servants and farm laborers. Public employment: all employees, with same exceptions as for private employment.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — In continuous employments, weekly wages to be five and one-half times average daily earnings, excluding overtime, during preceding six months or less in same employment. In seasonal employments, average weekly wages to be one-fiftieth of earnings from all occupations for preceding year or longer period according to circumstances. Wages not to include gratuities, board, lodging, etc., unless value thereof is fixed at time of hiring, nor amounts deducted by employer for necessary tools, supplies, etc. For purpose of death benefits, wages to be computed on basis of maximum, \$20, minimum, \$10, weekly.

Constitutionality. — If any part of act is held unconstitutional, it shall not affect any other part, except that Arts. II. and III. are declared inseparable.

Waiting Period. — First fourteen days of disability.

Compensation for Death. — (a) In all cases, reasonable expenses of last sickness and burial; maximum, \$100.

(b) From 15 to 60 per cent. of wages, according to number and kinship of dependents, wages to be taken at maximum, \$20, minimum, \$10, weekly; maximum period, three hundred weeks, but in case of abandoned or orphan child to continue at reduced rate until age of sixteen.

(c) Compensation to widow or dependent widower to cease upon remarriage.

(d) If death is not due to injury, liability for compensation is terminated.

Compensation for Disability. — (a) During first fourteen days of disability employer must furnish reasonable medical and hospital services; maximum cost, \$25, except in case of a major surgical operation, maximum, \$75.

(b) For total disability, 50 per cent. of wages, maximum, \$10, minimum, \$5, or full wages, weekly; maximum period, five hundred weeks, maximum amount, \$4,000.

(c) For partial disability, 50 per cent. of loss of earning power; maximum, \$10 weekly, maximum period, three hundred weeks, including period of total disability payments, if any.

(d) Special schedule of compensation for loss of certain members, etc.

Revision of Benefits. — Agreements are subject to review by Board at any time upon petition, alleging fraud, coercion, etc. An agreement or award may be modified or terminated at any time by a subsequent agreement approved by Board; or upon petition showing that incapacity has increased, diminished or terminated, Board or referee may modify or

terminate payments. Employee must submit to medical examination upon request.

Insurance. — State workmen's insurance fund is created by separate enactment. Twenty or more employers having an aggregate of at least 5,000 employees may incorporate mutual liability insurance association. Mutual companies of other States may be licensed to contract business in Pennsylvania, when they have a surplus over all liabilities of at least \$50,000.

Security of Payments. — Assenting employer is required to insure in State fund or any authorized insurance company or mutual association, unless exempted therefrom by showing financial ability to pay compensation directly.

Settlement of Disputes. — In case of disagreement, claim may be presented to Board for determination by a referee after a hearing. If parties agree on facts, but not on amount of compensation, they may submit facts to Board for determination of amount.

RHODE ISLAND.

Date of Enactment. — April 29, 1912; in effect Oct. 1, 1912; amended by act of April 29, 1913, in effect July 1, 1915.

Injuries compensated. — Personal injuries by accidents arising out of and in the course of employment causing incapacity for earning full wages for a period of more than two weeks, or death, except where the injury resulted from the willful intention of the injured person to injure himself or another, or from intoxication.

Industries covered. — All industries except domestic service and agriculture, if the employer elects. Defences in suits for damages are not abrogated unless more than five persons are employed.

Persons compensated. — Private employment: all employees in establishments covered by this act in absence of contrary election, casual employees and those earning above \$1,800 a year excepted. Public employment: not mentioned.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to mean total earnings received from employer in whose service employee was injured, during twenty-six weeks previous, divided by number of weeks actually employed. If such method is not fairly applicable, wages may be computed according to circumstances.

Constitutionality. — If any section of act is declared unconstitutional it shall not affect validity of any other portion which can be given reasonable effect without invalid section.

Waiting Period. — First two weeks incapacity. Compensation begins fifteenth day after injury.

Compensation for Death. — (a) To persons wholly dependent, a weekly payment equal to one-half the average weekly earnings of the deceased employee, but not less than \$4 nor more than \$10 per week, for a period of three hundred weeks.

(b) If only partial dependents survive, a sum proportionate to the amount which the annual contributions bore to the annual earnings of the deceased, for not exceeding three hundred weeks.

(c) If no dependents, the expense of the last sickness and burial of the deceased employee, not exceeding \$200.

Payments to children cease on their reaching the age of eighteen years unless they are physically or mentally incapacitated.

Compensation for Disability. — (a) The necessary medical and surgical care and hospital services for the first two weeks after the injury.

(b) For total incapacity, a weekly payment equal to one-half the wages, but not less than \$4 nor more than \$10 per week, during such incapacity, and not for a longer period than five hundred weeks.

(c) For partial incapacity, a weekly payment equal to one-half the loss of earning power, but not exceeding \$10 per week, during such incapacity, and not for a longer period than three hundred weeks.

(d) For certain specified injuries (mutilations, etc.), in addition to the above, one-half the wages, weekly payments to be not less than \$4 nor more than \$10 per week, for fixed periods.

Lump sum payments may be substituted by order of the Superior Court after compensation has been paid for six months for either death or injury.

Revision of Benefits. — Amount payable may be reviewed and modified by the Superior Court at any time within two years, if the time for payments has not expired. Employee must submit to examination as often as reasonably requested.

Insurance. — Approved schemes or insurance plans may be substituted, but the employer must meet all cost unless added benefits are provided corresponding to any contributions made by employees.

Security of Payments. — Assenting employers must insure in authorized stock or mutual company, or furnish satisfactory proof of financial ability to pay compensation, depositing security satisfactory to Commission.

Settlement of Disputes. — Disputes are settled by the Superior Court on a petition in the nature of a petition in equity, filed by any party in interest. Appeals may be carried to the Supreme Court by any aggrieved person.

TEXAS.

Date of Enactment. — April 16, 1913; in effect Sept. 1, 1913.

Injuries compensated. — Personal injury sustained in the course of employment causing incapacity to earn full wages for at least one week, or death.

Industries covered. — Excluded from the act are domestic and farm labor, railways operated as common carriers, and cotton ginning; also establishments in which not more than five persons are employed. Applies to other industries if the employer subscribes to the State insurance fund.

Persons compensated. — Private employment: all employees in industries included except casual. Public employment: no provision.

Burden of Payment. — The entire cost rests upon the employer.

Average Wages — how computed. — Average weekly wages to be one-fifty-second of earnings for twelve calendar months previous, but if employee lost more than two weeks in that time, year's earnings to be divided by number of weeks actually employed. If this method is impracticable, Board may adopt any other which seems fair.

Constitutionality. — If any part of act is held invalid, no other parts to be affected thereby; and if any exception to or limitation upon a general provision is held unconstitutional, such general provision to stand effective.

Waiting Period. — First week of incapacity. Compensation begins eighth day after injury.

Compensation for Death. — (a) To the legal beneficiary of the deceased employee, a weekly payment equal to 60 per cent. of his wages, not less than \$5 nor more than \$15 for a period of three hundred and sixty weeks, distributed according to law governing property distribution.

(b) If no beneficiaries or creditors are left, the expenses of the last sickness, and, in addition, a funeral benefit not to exceed \$100.

(c) If the deceased leaves no beneficiaries, but leaves creditors, the insurance association is liable to the creditors for such debts in an amount not exceeding that which would be due beneficiaries.

Compensation for Disability. — (a) Medical and hospital care for the first week.

(b) For total incapacity, a compensation equal to 60 per cent. of the average weekly wages of the injured person, but not less than \$5 nor more than \$15 per week during such disability, and not exceeding a period of four hundred weeks.

(c) For partial incapacity, a compensation equal to 60 per cent. of the loss of earning power during such disability, but not exceeding three hundred weeks, and in no case to exceed \$15 per week.

(d) For certain specified injuries (mutilation, etc.), an additional compensation equal to 60 per cent. of the average weekly wages of the injured person for fixed periods, not less than \$5 nor more than \$15 per week.

A lump sum payment may be substituted for weekly payments in cases of death or total permanent disability, subject to the approval of the Industrial Accident Board.

Revision of Benefits. — No provision.

Insurance. — Insurance may be effected through the Texas Employers' Insurance Association, under State control, or in any company admitted to do business in the State.

Security of Payments. — Assenting employer is required to insure in association under State control, or in any authorized insurance company.

Settlement of Disputes. — Disputes are referable to the Industrial Accident Board, whose decisions are subject to appeal to any court of competent jurisdiction.

VERMONT.

Date of Enactment. — April 1, 1915; administrative provisions in effect April 1, 1915; liability provisions in effect July 1, 1915.

Injuries compensated. — Personal injuries by accident arising out of and in course of employment, unless caused by employee's willful intention to injure himself or another, by intoxication or failure to use safety appliance. Not to include disease except as it results from injury.

Industries covered. — All employments except those that are casual or not for purpose of employer's trade or business, or domestic service. Presumption of acceptance does not apply to employers who regularly employ only ten or less, but they may accept act by notice to the Board.

Persons compensated. — Private employment: all employees except domestic servants, casual employees and those whose remuneration exceeds \$1,500 yearly. Public employment: all employees, not including public officials, and with same exceptions as those for private employment.

Burden of Payment. — Entire cost is upon the employer.

Average Wages — how computed. — Average weekly wages to be computed in manner best calculated to give average weekly earnings during preceding year, but if wages at time of injury were higher than formerly during year, only such higher wages to be considered. If such method is impracticable, regard may be had to average wages of another in same locality and class of employment. Wages to include market value of board, lodging, etc., which can be estimated in money, but not special expenses advanced in connection with employment.

Constitutionality. — If any part of act is held unconstitutional it shall not affect the validity of act as a whole, or any part thereof which can be given effect without such invalid portion.

Waiting Period. — First fourteen days of disability, payments to begin on fifteenth day.

Compensation for Death. — (a) If death results from injury within two years, in all cases burial expenses; maximum, \$75.

(b) From 15 to 45 per cent. of average weekly wages, according to number and kinship of dependents and measure of dependency; maximum amount, \$3,500, maximum period, two hundred and sixty weeks in case of widow, widower or child, otherwise two hundred and eight weeks.

(c) In computing death benefits, average weekly wages deemed to be not more than \$25 nor less than \$5.

Compensation for Disability. — (a) Reasonable medical, surgical and hospital services during first fourteen days of disability; maximum, \$75.

(b) For total permanent disability, 50 per cent. of average weekly wages, maximum, \$12.50, minimum, \$3, weekly; maximum period, two hundred and sixty weeks, including period of partial disability payments, if any. For total temporary disability, same rate, maximum, \$12.50, minimum, \$3, or full wages, weekly; maximum period, twenty-six weeks, but in special cases the Board may order payments to continue for an additional period not to exceed fifty-two weeks.

(c) For partial disability, 50 per cent. of average loss in earning power; maximum, \$10 weekly, maximum period, five years.

(d) Special schedule of compensation for loss of certain members.

(e) Diminished ability to obtain employment owing to disfigurement may be held to constitute partial disability.

Revision of Benefits. — Upon application of any party, on the ground of a change in conditions, Board may at any time, but not oftener than once in six months, review agreement or award, and thereupon end, diminish or increase compensation, except where a lump sum has been awarded. Employee must submit to medical examination upon request.

Insurance. — Employer may insure compensation with any corporation authorized to transact such insurance within the State.

Security of Payments. — Private employers must secure the payment of compensation by insuring in any authorized corporation, by obtaining guarantee insurance through any authorized company, by depositing with State Treasurer a surety bond or other satisfactory security, or by satisfying the Board as to their financial responsibility. Insurance is optional with municipalities.

Settlement of Disputes. — In case of disagreement either party may apply to Board for a hearing, and Board must make award within six months from date of hearing.

WASHINGTON.

Date of Enactment. — March 14, 1911; in effect Oct. 1, 1911; amended March 21, 1913.

Injuries compensated. — Injuries causing disability of 5 per cent., or death, to a person, whether received upon the premises or at the plant or in the course of employment while away from the establishment, except injuries brought about intentionally.

Industries covered. — All extra hazardous employment, including mills, factories and workshops where machinery is used; blast furnaces, mines, quarries and wharves; engineering works; logging, lumbering and ship-building; building trades; telegraph, telephone, electric light or power plants or lines; steamboats, tugs and ferries; railroads except as governed by Federal statute; State, county and municipal undertakings involving extra hazardous work in which persons are employed for wages.

Persons compensated. — Private employment: all employees in industries covered by the act; any working employer or salaried employee on the pay roll at a rate not greater than the average named in such pay roll. Public employment: all employees in industries covered by the act.

Burden of Payment. — The entire burden rests upon the employer.

Average Wages — how computed. — Monthly wage to be daily wage multiplied by twenty-six.

Constitutionality. — Constitutionality of act upheld in several cases.

Waiting Period. — None, but no compensation payable unless loss of earning power exceeds 5 per cent.

Compensation for Death. — (a) Expenses of burial not exceeding \$75.

(b) To widow or invalid widower, a monthly payment of \$20; to each child under sixteen, \$5 per month, the total not to exceed \$35.

(c) If no parent survives, a monthly payment of \$10 to each child under sixteen years of age, the total not to exceed \$35.

(d) To other dependents, if none of the above survive, a monthly payment to each equal to 50 per cent. of the average amount previously contributed to the dependent, the total not to exceed \$20.

(e) To the parent or parents of an unmarried minor a monthly payment of \$20 until the time he would have been twenty-one. In case of dependence, payments to parents of minors are governed by (d).

Payments to a widow or widower continue until death or remarriage, and to a child until reaching the age of sixteen years. If a widow remarries she receives a lump sum of \$240.

Compensation for Disability. — (a) For permanent total disability, payments as follows: (1) if unmarried at time of the accident, \$20 per month; (2) if with a wife or invalid husband, but no child under sixteen years of age, \$25 a month; if the husband is not an invalid, \$15 per month; (3) if married, or a widow or widower with a child or children under sixteen years, \$5 a month additional for each child, the total not to exceed \$35.

(b) For total temporary disability, payments as for permanent total disability during disability, increased by 50 per cent. for first six months, but in no case to exceed 60 per cent. of monthly wages.

(c) For temporary partial disability, the payment as for total disability continues in proportion to the loss of earning power, provided this shall exceed 5 per cent.

(d) For permanent partial disability, a lump sum not to exceed \$1,500; if the injured person is a minor the parents receive an additional sum, equal to 10 per cent. of the award to the injured person.

Monthly payments may be converted into lump sum payments in case of death or permanent total disability.

Revision of Benefits. — Revision may be had upon application of the beneficiary or upon the motion of the department.

Insurance. — Insurance is required in a State accident fund.

Security of Payments. — By compulsory State insurance.

Settlement of Disputes. — By Industrial Insurance Department, whose decisions are subject to review by the Superior Court, from which appeal lies as in other civil cases.

WEST VIRGINIA.

Date of Enactment. — Feb. 22, 1913; in effect Oct. 1, 1913.

Injuries compensated. — All personal injuries not the result of willful misconduct or intoxication of the injured employee, or self-inflicted, causing incapacity for more than one week, or death.

Industries covered. — All except domestic or agricultural labor, traveling salesmen, members of a firm or officers of a corporation.

Persons compensated. — Private employment: all employees in industries covered, including aliens, except persons casually employed, and the officers of corporations. Public employment: no provision.

Burden of Payment. — Employer, 90 per cent.; employees, 10 per cent.; State contributes the expenses of administration.

Average Wages — how computed. — Average weekly wages for reasonable time prior to injury to be taken as basis upon which to compute benefits.

Constitutionality. — If provision making compensation an exclusive remedy is held invalid, entire act shall be invalidated, but otherwise invalidity of any part of act not to affect the remainder. If compensation provisions are held unconstitutional, period between injury or death and such adjudication not included in time limitation for commencement of action for damages.

Waiting Period. — First week of disability.

Compensation for Death. — (a) Reasonable funeral expenses, not to exceed \$75.

(b) If death occurs within twenty-six weeks after injury, to the widow or invalid widower, \$20 per month and \$5 per month additional for each child under the age of legal employment, the total not to exceed \$35 per month.

(c) To other persons wholly dependent, if no widow, invalid widower or child under the age of legal employment is left, 50 per cent. of the average monthly support received from the deceased during the preceding year, not exceeding \$20 per month, for six years.

(d) If the deceased was a single minor, to a dependent parent, 50 per cent. of the earnings, not to exceed \$6 per week, until the time he would have become twenty-one.

(e) If only partial dependents survive, a compensation computed as in (c), with the same maximum.

Payments to a widow or widower cease on remarriage, and to children on reaching the legal age for employment (fourteen years).

Compensation for Disability. — (a) Reasonable medical, surgical or hospital treatment; maximum, \$150, except in certain cases of permanent disability maximum may be \$300.

(b) For permanent total disability, 50 per cent. of average weekly wage, maximum, \$8, minimum, \$4, weekly, until death.

(c) For temporary total disability, 50 per cent. of average wage, maximum, \$10, minimum, \$5, weekly; maximum period, twenty-six weeks, but for certain specified injuries fifty-two weeks.

(d) For partial disability, if temporary, 50 per cent. of loss of earning power, maximum, \$10 weekly; maximum period, twenty-six weeks, but for certain specified injuries fifty-two weeks.

(e) For partial disability, if permanent, 50 per cent. of average weekly wage for period ranging from thirty weeks to life, according to extent of disability; maximum, \$8, minimum \$4 weekly.

Lump sum payments may be substituted for periodic payments in case of either injury or death.

Revision of Benefits. — Awards may be modified at any time.

Insurance. — Insurance is effected through a State fund under the control of the Public Service Commission. The commission may reinsure all or any part of any class or risk in any authorized insurance company.

Security of Payments. — By State insurance, or employer may elect to pay compensation directly upon proof of ability to do so.

Settlement of Disputes. — Disputes are settled by the commission; limited appeal to the Supreme Court.

WISCONSIN.

Date of Enactment. — May 3, 1911; in effect same date; amended June 26, 1913, July 30, 1913, and Aug. 9, 1913.

Injuries compensated. — Personal injury by accident causing disability of at least one week, or death, while performing service growing out of and incidental to the employment, not intentionally self-inflicted.

Industries covered. — All, if the employer elects. Compulsory as to State and its municipalities.

Persons compensated. — Private employment: all employees except casual, including aliens, in the absence of contrary election. Public employment: all employees of the State or its political subdivisions.

Burden of Payment. — Entire cost rests upon the employer.

Waiting Period. — First week of disability. Compensation begins eighth day after disability, but if incapacity lasts more than four weeks compensation is payable from first day.

Average Wages — how computed. — Average weekly wages to be one-fifty-second of average annual earnings; latter to be three hundred times average daily wage in same employment for preceding year. If not employed in same occupation for substantially whole of a year, average daily wage of another in same employment and locality to be taken as a basis of computation. If this method is not fairly applicable, wages may be computed with regard to special circumstances. Annual earnings to be taken at maximum, \$1,250, minimum, \$500, for employees on railroad; and maximum, \$750, minimum, \$375, for others. If employee is a minor and permanently disabled, weekly earnings to be reckoned on basis of probable earnings after reaching majority.

Constitutionality. — Constitutionality of act upheld.

Compensation for Death. — (a) To persons wholly dependent, a sum equal to four years' earnings, but which when added to any prior compensation for permanent total disability shall not exceed six years' earnings.

(b) If only partial dependents survive, a sum not to exceed four times the amount provided for their support during the preceding year.

(c) If no dependents, the reasonable expense of burial, not exceeding \$100.

All payments are to be made in weekly installments equal to 65 per cent. of the average weekly earnings.

Dependence of children ceases at eighteen, unless physically or mentally incapacitated.

Compensation for Disability. — (a) Medical, surgical and hospital treatment for not exceeding ninety days, or the reasonable expenses therefor.

(b) For total disability, 65 per cent. of average weekly earnings during such disability, but if the injured person requires the assistance of a nurse, then 100 per cent. of earnings during the period of such assistance after the first ninety days.

(c) For partial disability, 65 per cent. of loss of earning power.

(d) For certain specific injuries (mutilations, etc.), a sum equal to 65 per cent. of average weekly earnings for fixed periods.

(e) For serious permanent disfigurement, a lump sum may be allowed not exceeding \$750.

In case of temporary or partial disability the aggregate compensation for a single injury shall not exceed four years' earnings, and for permanent disability six years' earnings, nor may the disability period exceed fifteen years from the date of the accident.

Lump sum payments may be substituted at any time after six months from the date of injury.

Revision of Benefits. — The commission may modify or change its order or award within ten days if a mistake is discovered; or a review by the court may be had on appeal within twenty days. The commission may call for a medical examination at any time it deems necessary.

Insurance. — Insurance in approved companies is permitted, but the liability of the employer may not be reduced.

Security of Payments. — The employer must give proof of financial ability or insure risks.

Settlement of Disputes. — Disputes are settled by the Industrial Commission, subject to a limited review by the courts.

WYOMING.

Date of Enactment. — Feb. 27, 1915; in effect April 1, 1915.

Injuries compensated. — Injuries sustained in course of employment, unless due solely to culpable negligence of injured employee. Not to include disease unless it results directly from injury.

Industries covered. — Extra hazardous employments as defined, public or private, where five or more have been continuously employed for more than a month at time of accident; certain exceptionally hazardous employments regardless of number employed. Does not extend to employments purely casual and not for purpose of trade, business, etc., of employer, or to employees of city or State otherwise provided for.

Persons compensated. — Private employment: all employees except casual employees. Public employment: all employees unless otherwise provided for.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — No provision.

Constitutionality. — No provision.

Waiting Period. — First ten days of disability. Compensation begins on eleventh day after injury.

Compensation for Death. — (a) To widow or invalid widower, lump sum of \$1,000, minus payments during disability, if any.

(b) Additional lump sum equal to present worth of \$60 a year for each child under and until sixteen years of age, but not to exceed lump sum paid to surviving spouse.

(c) To dependent parents, if any, lump sum proportioned to degree of dependency; maximum, \$500.

(d) In all cases, expense of burial; maximum, \$50, unless otherwise agreed upon.

Compensation for Disability. — (a) For total disability if permanent, lump sum of \$1,000 if unmarried; if employee has wife or invalid husband, lump sum of \$1,200 plus \$60 a year for each child under and until sixteen, such additional amount not to exceed in the aggregate one and one-half times sum allowed to parents. If disability is temporary, from \$15 to \$35 monthly, depending on connubial state and number of children, to continue during disability, but not to exceed amount payable for permanent disability under like circumstances.

(b) No provision as to temporary partial disability.

(c) Special schedule of compensation for loss of certain members, etc.

Revision of Benefits. — If judge of district court finds, from examining physician's report, that employee has recovered, he must so certify to State Auditor and State Treasurer, as authority to discontinue payments. Employee must submit to medical examination upon request.

Insurance. — Act creates industrial accident fund, in custody of State Treasurer, maintained by assessments on employers. No other method of insurance authorized.

Security of Payments. — Compensation is secured by State insurance through assessments on employers.

Settlement of Disputes. — Amount of compensation is fixed by judge of district court, after a hearing in case of dispute, with right of jury trial in certain cases.

UNITED STATES.

Date of Enactment. — May 30, 1908; in effect Aug. 1, 1908; supplemented by Executive Order of July 20, 1915.

Injuries compensated. — Injuries sustained in course of employment, unless due to negligence or misconduct.

Industries covered. — Hazardous employment on construction work in reclamation of arid lands, hazardous work under Bureau of Mines, Forestry, or Lighthouse Service; employments under Isthmian Canal Commission, employees of United States working as artisans or laborers in manufacturing establishments, arsenals, navy yards, construction of river and harbor or fortification work. By Executive Order of July 20, 1915, application of act is extended to workmen employed on construction of government railroad in Alaska.

Persons compensated. — All employees engaged in above-named occupations.

Burden of Payment. — Entire cost rests upon the employer.

Average Wages — how computed. — No provision.

Constitutionality. — No provision.

Waiting Period. — No compensation to be paid unless injury continues for more than fifteen days.

Compensation for Death. — Full pay to dependents for remainder of period between death and one year after injury.

Compensation for Disability. — (a) For total disability, full pay during incapacity; maximum period, one year.

(b) For partial disability, full pay during incapacity; maximum period, one year.

Revision of Benefits. — No provision.

Insurance. — No provision.

Security of Payments. — No provision.

Settlement of Disputes. — Questions of negligence or misconduct, and claim for compensation, to be settled by commissioner, except as to employees under Isthmian Canal Commission, claims to be settled by chairman of that commission, and as to employees on construction of government railroad in Alaska, claims to be settled by chairman of Alaskan Engineering Commission.

INVESTIGATIONS AND INSPECTIONS.

The inspection department, consisting of one woman and five men, began its work on Jan. 8, 1914.

The work of the inspectors has taken them to all parts of the Commonwealth. Their inspections of industrial plants in connection with safety work has brought them into close contact with all the industries of the State. Their investigations in connection with claims for compensation have covered all of the principal points of the act.

Since the Board is concerned primarily with the payment of compensation by insurance companies to employees who receive injuries in industry and to their dependents, many of the duties of the Board's inspectors have been along the line of investigating facts to expedite the settlement of claims.

All fatal cases in which compensation may be due are investigated immediately by the inspectors, inasmuch as the Board desires to have compensation paid promptly to the dependents, if there are any, and if there are no dependents to have the expenses of the last sickness and burial in each case properly adjusted. All the facts in each fatal case are reported impartially by the inspectors to assist the Board to determine whether death was due to an injury arising out of and in the course of the employment and to settle the question of dependency. In cases where dependents are not familiar with the act the inspectors advise them as to their rights, and render any assistance necessary in the filing of claims or requests for hearings before committees of arbitration which are appointed under the provisions of the act to hear the facts in disputed cases. In some disputed cases it is deemed necessary to have an impartial autopsy performed upon the deceased employee in order that all the medical facts possible may be procured to assist the Board in its judgment. In such cases the inspectors are required to obtain the consent of relatives of the deceased to have the autopsy performed, and to make all arrangements for its performance if consent is given.

Facts in disputed cases, other than fatal cases, are ascertained for the use of the Board, and as a result of the reports of inspectors many cases in which requests for arbitration hearings

are made are settled, without the formality of hearings, at conferences of the parties in interest and members of the Board. These cases involve such questions as average weekly wages of injured employees, connection between employment and injury, and extent of disability. Thorough investigations are made in all cases where it is claimed that the injuries of employees are due to the serious and willful misconduct of the employer, or that the injuries to employees were due to their own serious and willful misconduct, in order that the Board may fully decide such questions. In some cases the bills of doctors and hospitals are referred to the inspectors to ascertain facts regarding the fairness of the charges. The facts as to whether medical treatment is required beyond the first two weeks are ascertained in many cases in order that the Board may rule whether the insurer must pay for extended medical treatment.

Under the provisions of the act all lump sum payments must be approved by the Board. All such cases are referred to the inspection department for facts to aid the Board in determining whether the circumstances in such cases are unusual enough to warrant such payments as are agreed upon, whether the sums named are adequate, and whether the best interests of the parties requesting the payments will be served by the approval of such payments. The Board has had its inspectors make careful investigations in the cases of young and inexperienced workmen who receive injuries in industry, in order that such employees may be awarded by the Board compensation payments based upon increases of earnings which would take place in the natural course of events. The cases of minors who are injured are investigated to aid the Board in determining what suitable provision may be made for the future of these minors.

Complaints against employers for failure to report injuries to employees are turned over to the inspectors, and if employers fail to make such reports upon request of the Board the inspectors have the offenders arraigned in court and appear against them.

Special assignments requiring investigations of conditions in industry about which complaints have been received have formed a part of the work of the inspection department.

Accident-prevention work is one of the most important duties of the inspection department. The Board, having the authority to investigate and inspect places of employment for causes of accidents and occupational diseases in order that such causes may be removed, has conducted a campaign for greater safety in practically all the industrial plants of the State, with an experience of 20 or more reported injuries per year. The inspectors took an active part in this campaign.

Statistical studies were made by the inspectors from reports of accidents filed with the Board by employers. These studies showed clearly the causes of accidents in various establishments, and further showed duration of disability, wages lost and compensation paid. With these studies the inspectors visited places of employment throughout the State, showed employers what was causing injuries to employees and piling up losses of millions of dollars annually, and urged the co-operation of these employers with the Board in the prevention of accidents and industrial diseases. The importance of educational work as well as mechanical safeguarding was shown, and the organization of safety committees of employees was strongly advocated. The inspectors made recommendations which, although not mandatory, later were taken up generally by employers and carried out. The Board offered its services and those of its inspectors in the formation of safety committees and the solution of safety problems. Many employers accepted this offer. In those instances where employers have co-operated fully in this work there has resulted a substantial reduction in the number of injuries to employees.

THE POSSIBLE INFLUENCE OF FATIGUE AS A CAUSE OF ACCIDENTS.

In published accident experience showing the hours of the day, or the number of hours since the beginning of the working day at which injuries occur, there are invariably to be found certain well-defined peaks of accident frequency. Various opinions as to the reason or reasons for this have been advanced, and in a general way the possibility that the element of fatigue may be a causative factor has been recognized. Apparently, however, very little serious consideration has been given to this subject, except by a few persons here and there for the purpose of studying out the possible effects of fatigue and then adopting methods to overcome the influence.

Under these circumstances, the comparatively recent appearance of a report on the subject of fatigue, issued by the British Association for the Advancement of Science,¹ is worth study and consideration. This report is entitled "The Question of Fatigue from the Economic Standpoint." The evidently careful treatment given the subject, and the scientific process of reasoning shown by the study, are factors which give weight to the conclusions contained in the report. In the following pages is given a brief outline of the study, as a suggestion of the possible results which we may accomplish by applying some of the theories to the work of reducing accidents, or at least in making experiments to determine the possibilities for so doing.

In treating the subject, this report defines fatigue from the objective point of view, as a diminution in the capacity for work which follows excess of work or lack of rest. Subjective fatigue is of importance only in so far as it influences objective fatigue, which is capable of measurement by means of external economic effects. In studying the degree of fatigue at any given time the main correlated factor is the duration of work which preceded such time. The study recognizes that there are other factors, denominated as predisposing conditions, which will enable excess of work or lack of rest to take effect to different degrees. These other factors are grouped under the general

¹ Interim Report of the Committee, Prof. J. H. Muirhead, Chairman, London, 1915, 67 p.

headings, nature of the work, environment of the work, nature of the worker, and habits of the worker.

Without going into the discussion which follows with reference to the topics under these headings, the next important consideration is that which deals with the units chosen for testing the presence and degree of fatigue. In general, the tests of fatigue should vary as the fatigue varies (be a result of fatigue), and vary with the fatigue only (not be a result of other factors). In this study two tests are used in particular: (1) the output of work; (2) the accidents occurring in the course of work. Other allied tests are used to some extent in the study, but since we are trying to find some positive method for reducing the effect of fatigue as a cause of accidents, we are more interested in studying the relationship of fatigue to accidents, here used as one of the main tests. For the purpose of determining the extent to which the tests adopted fit into the requirements of the needed tests the study then proceeds to examine their nature.

The question, "Do the tests vary with fatigue?" is interpreted to mean, are variations in fatigue indicated by variations in the amount of output and number of accidents? By the definition of fatigue, as a diminution in the capacity for work, the test of output of work may be expected to vary inversely with fatigue. Further proof is needed that the frequency of accidents varies, and varies concomitantly with fatigue.

To show that fatigue plays a part in the occurrence of accidents, the element of time is pointed to as one indication. Certain accidents are caused by factors in no way connected with fatigue, namely, those of a mechanical nature or of a social nature. In view of the fact, however, that such accidents may occur at any time of the working day, the effect, if any, upon accidents which are due to the element of fatigue would appear to diminish the sharpness of the curve of such accidents, the degree of which would depend upon the time of the day at which such non-fatigue accidents occurred. This depressing effect, however, should not alter the general shape of the fatigue curve. In studying the results of various tabulations the conclusion is reached that in industry as a whole, although some accidents are in no way attributable to fatigue,

and result in smoothing down the time-distribution curve of accidents, such accidents form a small proportion of all accidents, varying for different industries, but not likely to exceed 20 per cent. The statement is not made that these mechanical and social accidents leave the balance of accidents due entirely to fatigue, but the majority of such other accidents are felt to be caused by the factor of fatigue.

The following tabulation summarizes the discussion up to this point:—

Fatigue: Loss of speed.	{	Decreases quantity of output.	{	Decreases accident immunity and quality mainly.
		Increases accident immunity.		
Fatigue: Loss of intensity.	{	Less attention.	{	Decreases accident immunity mainly.
		Less muscular control.		
	{	Less sensitivity.	{	Decreases quality, accident immunity and output equally.
		Longer reaction.		
		Weaker memory.		
		Less judgment.		

The preceding considerations tend to show that the tests selected—namely, output and accident frequency—vary in some order with variations in fatigue. The next question considered is whether or not these tests vary only when fatigue varies. To begin with, there may be other factors than fatigue causing variations in output and accident distribution.

1. All the factors that may influence both output and accident distribution immediately without the interposition of fatigue are considered in two groups:—

(a) Those factors which, like fatigue itself, are psychophysical states in the worker.

(b) Those outside factors which are some outside condition or fact.

The following tabulation shows the causal relationships:—

Previous duration of work of certain workers in certain processes among certain surroundings.	Condition: Fatigue.	{	Which results in	{	Output decrease. Accident increase.
Previous duration of work of certain workers in certain processes among certain surroundings.	Condition { Practice. Spurt. Incitement. Excitement.	{	Which results in	{	Output increase. Accident decrease.

The most important non-psychophysical, or outside condition, as a factor in the time-distribution of accidents and of output without interposing fatigue is considered to be that of light.

2. Factors that may influence the time-distribution of output only are connected with the continuity of the work.

3. Factors besides fatigue that may influence the distribution of accident occurrences over the time of day only are —

(a) The magnitude of the output. The greater the output, so much more often will the dangerous operations have to be repeated.

(b) The kind of process. If workers at certain times of the day are engaged in more dangerous work than at other times, as in the case of foundry workers, the accidents will vary without reference to fatigue.

Up to this point the study has considered the causes of fatigue and the relation of fatigue to the two tests, output and accident time-distribution. The balance of the report is devoted to a study of output and accident experience for the purpose of answering the central question, "What is the exact correlation of fatigue with the previous duration of work performed?"

On the basis of statistics gathered and studied, the report shows certain fairly dependable results as tested by the factors mentioned above. The following tabulation shows a general average tendency developed by these methods: —

Hour of Spell.	Output.	Accident Immunity.
First,	Small,	Very great.
Second,	Very great,	Great.
Third,	Great,	Fair.
Fourth,	Fair,	Small, ¹
Fifth,	Small, ¹	Fair.

¹ In cases with only four hours to the spell, instead of five, the fourth hour under "output" is fair, but under "accident immunity" is changed from small to fair.

By and large, output varies inversely with fatigue, and accident frequency varies concomitantly with fatigue, or, another way of phrasing the latter tendency, accident immunity varies inversely with fatigue.

The effect of fatigue will vary under different conditions of industrial environment, occupation, number of hours in the spell, etc. To procure results in practice the factor of fatigue should be studied intensively in relation to the individual organization. This study has certain significant features, as follows: —

First. — For the efficient management of factory and office, account must be taken of the human element as well as of material and machine.

Second. — The importance of the rest pause cannot be overestimated. It prevents accidents beforehand, and increases working efficiency afterwards. Regulation of the length of the spell is more important than having a long working day.

Third. — It is important to study the nature of the work in order to modify the onset of fatigue.

Fourth. — In general, there is much to be learned, by taking account of fatigue and studying the subject for the purpose of adapting the hours of labor, or the length of the spell, in each kind of work.

Space has been given to a summary of this report because of its applicability to the matter of accident prevention. The study is important, not only from the point of view of eliminating the form of waste connected with the occurrence of accidents, but also from the point of view of production. The influence of fatigue upon not only the frequency of accidents, but also upon the volume of output, makes a study of this question of considerable importance to employers engaged in industry. The Board considers that an intensive study of the matter of providing rest pauses, and possibly some form of nourishment just before the period when in a particular industry or establishment the highest number of accidents occurs, would be well worth while. To obtain real results, however, each employer should study his own plant, not only as a whole but at least by departments, for the purpose of determining the particular occupations and operations in which fatigue plays a part in reducing output and increasing accidents. Facts determined on this basis should be correlated with the length of working period preceding the onset of fatigue, as denoted by the two tests, — reduction in the amount of output and increase in the number of accidents.

To determine exactly the possible influence of fatigue will require considerable study, but the possibilities in this field of research would appear to make the matter well worth while. With reference to the tendency of accidents to group around certain times of the day, there is recalled a safety bulletin in

which is shown a curve of accident frequency. In connection with this curve employees are advised to be careful around the times of day showing the greatest densities of accidents, for the purpose of reducing the peaks and keeping the valleys down. A bulletin of this nature has undoubted value, but unless the employee knows the reasons for the frequency of accidents at these points, the remedy, and is permitted by the management to apply the remedy, the best results are not likely to be accomplished. This question seems distinctly to be one which should be taken up and studied by the factory management itself. In this way the facilities for making the study, and also the power to institute the proper remedy are available.

The Board hopes that this question will receive the study which it deserves. The possible advantages to be gained should more than offset the work of making the studies. In any work of this nature, not only is important knowledge obtained about the main problem, but there is bound to follow valuable information about allied questions which otherwise might not be discovered.

ACCIDENT PREVENTION IN INDUSTRY.**INTRODUCTION.**

Accidents killed 370 workers engaged in the industries of Massachusetts during the year from July 1, 1914, to June 30, 1915. In addition, 94,597 workers were more or less seriously injured by accidents arising out of and in the course of their employment during the same period.

Consider the shock to the community, the amount of space the newspapers would devote to the subject, if all these fatalities occurred in one day or in one industry. It would engage the attention of the whole country, and would be a calamity in our lives.

The element of time, however, enters to lessen the seriousness of this appalling record.

The statistics contained in the preceding reports of the Massachusetts Industrial Accident Board show that this state of affairs has existed so long that most people think it is unavoidable, and complacently sit back and say accidents are bound to happen. Unavoidable accidents are bound to occur, but were all of these 370 fatal and 94,597 non-fatal accidents unavoidable?

Leading authorities on the question estimate that at least 40 per cent. of all industrial accidents are preventable. Applying 40 per cent. to the total number of accidents in Massachusetts it would appear that there would have been a possible reduction of 148 fatal and 37,838 non-fatal accidents during the year.

In the face of such figures it seems very difficult to excuse the many employers in the Commonwealth for their apparent lack of initiative in undertaking a proper solution of this important problem of accident prevention.

The Industrial Accident Board, however, is pleased that a good many employers in Massachusetts have recognized the fact that most accidents can be prevented by taking necessary precautions.

The safety organization with its safety committee selected from the workmen is the best insurance against accident, and goes to the root of the matter.

Compensation is the cure for the financial loss due to accident, but prevention is worth more than full compensation.

If all the employers of Massachusetts and their employees co-operated in the prevention of accidents there would be a great many happier homes in the Commonwealth.

ACCIDENT FREQUENCY SINCE JULY 1, 1912.

The Workmen's Compensation Act went into effect in Massachusetts July 1, 1912, and since then the Industrial Accident Board has received from 300 to 500 accident reports per day. These accidents have been classified by the statistical department into the following classifications:—

	Fatal Accidents.	Non-fatal Accidents.
July 1, 1912-July 1, 1913,	474	89,694
July 1, 1913-July 1, 1914,	509	96,382
July 1, 1914-July 1, 1915,	370	94,597

The non-fatal accidents show the following classification of specified injuries involving loss of members or sight:—

Number and Type of Specified Injuries.

NATURE OF INJURY.	1912-13.	1913-14.	1914-15.	Total.
Both eyes and one hand,	-	1	1	2
Both feet,	1	2	2	5
Both eyes,	2	-	-	2
One hand and one foot,	-	1	-	1
One eye and one hand,	-	1	1	2
One hand and two or more fingers,	-	2	-	2
One foot and two or more toes,	-	2	-	2
One foot and one toe,	-	-	1	1
One eye,	47	77	104	228
One hand,	35	38	43	116
One foot,	22	22	14	58
Two or more fingers on each hand,	-	1	-	1
Two fingers on one hand, one finger on the other,	-	1	-	1
Two or more fingers,	133	112	115	360
Two or more toes,	21	9	9	39
One finger and one toe,	-	-	1	1
One finger,	672	804	618	2,094
One toe,	34	42	23	99
Total,	967	1,115	932	3,014

THE INDUSTRIAL ACCIDENT BOARD AND ACCIDENT PREVENTION.

The Industrial Accident Board has expended a great deal of energy and has devoted considerable time to the problem of safety.

Through the publication of bulletins, holding of conferences, shop talks and public hearings it has reached the attention of hundreds of employers and thousands of employees engaged in the various industries in the Commonwealth.

The Board has endeavored to lay before the employers and workers in the State the great importance of accident prevention, both as a means of reducing misery, suffering and waste, and as a source of economy, which some of the employers of the State have failed to recognize or at least appreciate.

The Accident Board, in joint action with the Board of Labor and Industries, has promulgated a tentative draft of safety standards which have been submitted to the manufacturers for their consideration and approval.

The Board has also greatly aided employers in the State in studying their particular hazards, and the inspection department has made thousands of recommendations for the improvement and betterment of conditions in the mills and factories.

The extent of their efforts along this line has been limited only by the number of inspectors on their staff.

That a great deal of good has resulted from their propaganda on accident prevention is attested by the many commendatory letters received from the employers and labor organizations in the State.

The Industrial Accident Board has received the highest degree of encouragement from those employers who have co-operated to the extent of introducing a safety organization among their employees. The work these employers have accomplished has tended to lessen greatly the toll of accidents; and as a result there undoubtedly are many thousand employees who have been saved the hardships that go with every serious accident, due to the thoughtfulness and consideration of those employers who have taken steps to prevent accidents by the introduction of the safety committee.

ACCIDENT PREVENTION METHODS.

The safety organization composed of employees is universally recognized as the best method of procedure in the work of lessening the number of industrial accidents.

You must have an organization or system to accomplish results in any line of endeavor. What would an employer, manufacturing on a large scale, accomplish without a directing force or organization? What results could be accomplished without a cost department or an accounting department? Without these agencies a business would be like a ship without a pilot, and would soon be lost.

Likewise the great toll of death and suffering among employees in this State must go on unless a proper agency is provided to handle this serious problem. The proper agency to reduce the number of accidents is the safety organization.

Form a safety committee under the direction of a competent man as chairman, and select one or more men from each department to assist him.

Charge the committee with the duty of eliminating hazardous conditions and dangerous practices or methods of working.

Have the committee or subcommittee investigate every serious accident, determine the cause when possible, and also determine a method of prevention. Make every serious accident teach a lesson to all employees.

Have the committee invite suggestions from the employees as to means of improving conditions and lessening hazards.

Have the reports, recommendations, and findings of the safety committee attended to promptly, and have the recommendations and suggestions of employees carefully studied and acted on when there is merit in the recommendations made.

Make a thorough and complete inspection of the plant from time to time, and solicit the co-operation of the foremen and employees in keeping the plant clean and passageways and walks free from obstructions.

Where there are particular hazards there should be a set of rules and regulations prepared, and employees should be required to memorize and understand them.

Encourage the employees in every possible way to co-operate in the safety work. Create an interest in the work among the

foremen and overseers by preparing a monthly comparative statement of the number of accidents in each department. This should encourage competition among departments for a high rating.

Charge the foremen with the proper instruction of all new employees in their work, and never allow a man to operate alone until he has been thoroughly trained and understands his work and the particular dangers if there are any.

Make service on the safety committee attractive, and change the personnel at stated times so that all competent and available men will have an opportunity to serve on the committee. This practice will develop a force of careful men, and a careful man is the best safety device.

The accident frequency should be prepared every month on a comparative basis showing the standing of each department, and distributed among the department heads.

A sample form of tabulated record in use is shown here.

ACCIDENT SUMMARY, MILLS.
SHOWING NEW CASES OF RECORD FOR JANUARY, 1915.

DEPARTMENT.	Number of Cases.	Days lost.	Wages lost.	Per Cent.	Number of Employees injured per 100 employed, based on a Yearly Rate.
Picker,	1	14	\$25 70	96	
Card,	-	-	-	100	
Drawing,	-	-	-	100	
Spinning,	2	9	11 40	94	
Spooling,	-	-	-	100	
Warping,	-	-	-	100	
Slashers,	3	17	39 50	90	
Weaving,	2	7	15 80	96	
Shearing,	2	26	58 60	94	
Folding,	-	-	-	100	
Packing,	1	2	4 00	98	
Shipping,	1	6	13 20	98	
Mechanical,	5	37	124 75	87	
Yard,	4	34	68 50	88	
Totals,	21	152	\$361 45	-	17.6

This record, appearing monthly, will naturally result in developing personal interest among the foremen, and it will be found to be an excellent means of creating interest in accident reduction, as every one is anxious to make a good showing, especially when so much good results to employer and employees alike.

When asked as to whether the matter of accident prevention or safety was in the hands of a committee in his plant, an agent of one of the largest mills in the State stated that in reality it received no particular attention as they had not been pressed on the matter, and thus in the rush of business, increasing production and following up costs it had been somewhat lost sight of and perhaps suffered for want of attention. He was surprised when his accident study or statistical record prepared by the Industrial Accident Board was handed to him, and after examining the record carefully he declared that hereafter the subject would receive serious attention.

There are many other methods of following up accident frequency which can be put into practice at little or no cost to the employer, and which will serve to instill in the employees an interest in accident prevention.

Elimination of accidents by lessening the hazards and educating the employees brings results which must be appreciated.

PREVENTABLE ACCIDENTS.

A study of the causes of preventable accidents shows that they can be divided into two main groups.

First. — Those caused by the failure of the employers to provide safeguards on dangerous machines and equipment, and failure to maintain proper working conditions where there is efficient lighting, ventilation and good order.

Second. — Those caused by the carelessness of employees, their lack of proper and sufficient instruction and their ignorance.

It is apparent, therefore, that the employer who seriously undertakes the problem of accident prevention must build on a sound foundation and work out some definite and permanent plan of action.

Looking back to the beginning of the accident-prevention campaign or safety-first movement in industry, it will be seen

that the employers who undertook to provide proper safeguards for all dangerous machines, and at the same time educated their employees in habits of caution, have derived the best results and benefits.

These employers developed the safety-first movement, and the safety committee was found to be the very best agency in the prevention and reduction of accidents.

This movement anticipated workmen's compensation legislation in some of the States, but such legislation has given the matter of accident prevention in the industries a great impetus.

The underlying causes of accidents can be found in a study of the accident frequency or experience of each industry. Study your accidents and make each one teach a lesson.

Have a thorough inspection made of your plant, and look for the following defects and conditions which are responsible for many accidents: —

1. Keep a sharp lookout for dangerous practices; *i.e.*, failure of grinders to wear goggles, employees cleaning or oiling machinery while in motion, inexperienced employees adjusting belts, etc., careless use of ladders and tampering with electrical equipment. Keep in mind that a great many accidents are due to carelessness, recklessness and ignorance.

2. Keep passageways clear and free from obstructions, and maintain proper and definite traffic zones.

3. Inspect elevators, cranes, hoist chains and ropes, ladders, etc., at regular intervals.

4. Guard floor openings and hatchways, and provide hand-rails on stairs and overhead platforms. Serious accidents are caused by employees falling from high places and into unguarded floor openings and pits.

5. Provide good lighting, and inspect out-of-the-way places. Many serious accidents happen off the beaten path, or where it is said nobody ever goes.

6. Guard large drives and low shafting, and remove or guard projections which are likely to catch on clothing and pull employees around shafting.

7. Instruct employees to wear close-fitting clothing, as loose sleeves and loose clothing have caused many fatal accidents.

8. Follow up slight cuts, scratches or bruises, and see that they are properly cared for. Neglected injuries become septic, and blood poisoning often turns a trivial accident into a serious one.

9. Draw up safety rules and regulations for the direction of employees operating elevators, cranes, electrical equipment and all dangerous machinery, and see that they are enforced.

10. Invite the co-operation of the employees, — teamwork will reduce the number of accidents.

There are many other ways of keeping all persons interested, and a safety committee will surely justify its existence.

EDUCATION IN ACCIDENT PREVENTION.

The importance of education in accident prevention cannot be overestimated. It has had the same influence in lessening the number of industrial accidents as the fire-prevention movement has had in the prevention of fires in factories.

Instruction of employees in the safe methods of doing their work, and inculcating in their minds habits of caution and a thorough understanding of factory "don'ts," have been best accomplished by the safety committee among the employees.

This influence for good among the workers might be likened to the improvement in surroundings which results from the installation of an up-to-date lighting system where formerly an inadequate system served. However, the element of education in the prevention of accidents is something which cannot be controlled or accomplished by compulsory legislation, and it must be brought about by a spirit of co-operation between the employers and employees, and the former must naturally take the initiative. How to bring this about has been demonstrated in the many instances where the safety committee has been introduced.

Proper and efficient safeguarding of dangerous machinery and equipment has been best accomplished in those plants having a safety committee of employees.

Statistics also show that while safeguarding machinery is very important, the education of the employees in habits of caution is the more important work.

EMPLOYERS AND EMPLOYEES.

The burden of educating employees to be careful and cautious and to lessen and eliminate accidents rests largely on the works superintendent, foremen and assistants. Their attitude towards the accident-prevention movement will influence their employees in the same way as does their attitude towards production, discipline, etc. If the superintendent or department head shows a sincere desire to have working conditions safe and dangerous machinery safeguarded, his attitude will be reflected by the foremen and employees, and carelessness will be stamped out and accidents eliminated.

There are many effective ways by which the problem of accident prevention has been handed down from the superintendent to the employees. In the big industries the matter has been specialized, and rules and regulations have been put into effect and enforced.

This is evidenced in the restriction of the ordinary employee, who is forbidden to operate or handle electrical equipment, elevators, transmission belting, etc. The handling of such equipment is restricted to men who have been specially instructed in such work. These employees are required to observe well-defined operating rules, as, for example, crane-operating rules, etc.

MECHANICAL SAFEGUARDS.

Practically every source of danger in mechanical and electrical equipment has received the study and attention of inventors and engineers, and there have been many devices designed to protect operators of dangerous machinery.

The introduction of safeguards has undoubtedly prevented many serious accidents, and in some States the installation of these safeguards on certain classes of machinery has been made compulsory.

The legislation of this character in Massachusetts has extended to elevators, boilers, etc., and when the rules formulated by the Joint Board of Accident and Labor have been put into effect in this State conditions will be further greatly improved.

While it is possible to purchase guards for standard machine tools, manufacturers have found that they can often accomplish equally good results with home-made guards.

Where the work of safeguarding is handled by the mechanical force of a plant it is advisable that all guards be made with a view to permanency and stability. It is by far more satisfactory to provide a suitable and substantial guard than to attach a flimsy or makeshift arrangement which is likely to be a source of danger.

Guards should be designed to last the life of the machine guarded, and be of a fixed or permanent type if practicable.

AIDS TO ACCIDENT PREVENTION.

There are many sources of information, publications and reports which furnish valuable suggestions to aid in preventing accidents, and which will be of great assistance to a safety committee in its campaign to eliminate accidents.

The various trade papers and magazines also give valuable suggestions which can often be put into application without much trouble or expense.

Among the sources of information available to the employer and employee interested in the prevention of accidents are the following: —

The annual report and bulletins of the Massachusetts Industrial Accident Board.

The publications and bulletins of the various insurance companies doing business in this State.

The reports and bulletins of the United States Department of Labor and Commerce.

The National Safety Council (Chicago) reports, bulletins, etc. This organization forwards to its subscribers, weekly, literature on special subjects having to do with accident prevention and welfare.

The American Museum of Safety (New York) maintains a permanent safety exhibition, and issues publications and bulletins.

“Safety Engineering.” An illustrated monthly magazine dealing with safety problems and containing interesting articles and suggestions for the engineer and safety inspector.

The National Association of Manufacturers (New York) maintains a bureau of safety and sanitation which has developed safety rules and regulations and safety devices which are standard.

There are many books and treatises on safety and accident prevention dealing with safety in special industries and also with occupational diseases.

DOES ACCIDENT PREVENTION PAY?

Waiving the humane side of this question, on which all should agree, we are confronted with the economic side of the problem.

The fact that employers, who have introduced the safety committee to handle the problem of accident prevention, testify as to its effectiveness and efficiency should be a strong argument in its favor.

There is no instance where the work of such committees has been discontinued after a trial.

Insurance carriers doing business in Massachusetts have also recognized the great advantage and saving to be gained through the agency of the safety organization and its safety committee, and is prepared to give a certain credit to the employer whose plant is organized for safety. The employer who conforms to the requirements of safety organization, inspection, education and first-aid treatment may obtain a total credit of 7 per cent. to reduce his premium rate per \$100 of pay roll.

CONCLUSION.

At the present time a large majority of the States have enacted workmen's compensation legislation, and in some States a fund is created for the promotion of accident prevention. Some States have prescribed that safety devices be installed and safeguards provided for different classes of machines.

Massachusetts is often cited as an excellent example because of its results under the act.

The growth of the safety organization among the employees in the industries in Massachusetts has been very creditable. Its introduction has saved money and undoubtedly a number of serious and fatal accidents. Nevertheless, the progress of the safety committee as a means of preventing accidents has not taken the strides it should have in many instances, and its further postponement in a great many special industries is to be regretted.

To bring about the earliest possible introduction of the accident-prevention movement in the industries of the State the Industrial Accident Board stands ready to render any

assistance within its power. The inspection department is available to aid in the installation of the safety organization along lines outlined in Bulletin No. 9 issued by the Board. This publication deals entirely with the safety organization and its scope.

In closing it might be said that the bulletin referred to has been favorably commented on by the leading insurance companies, and it has been the model for the safety organizations which have come into existence since its issuance.

In the following pages are shown a few examples of guarded and unguarded machinery.



FIG. 1. — Gears on gas producer without any guards or other protection.



FIG. 2. — The same set of gears suitably and substantially guarded, the guard also protecting the spokes of the large gear wheel and the projecting key on the shaft. The guard is so attached that it can be readily removed and replaced.



FIG. 3. — A modern and up-to-date polishing room, showing improved working conditions. There is an adequate exhaust system for carrying off dust from each outfit. The room shows an orderly arrangement and no overcrowding.



FIG. 4. — Suction cleaning apparatus used in cleaning type cases.



FIG. 5. — A suitable protection for a chuck, same covering or guarding the projecting set screws.

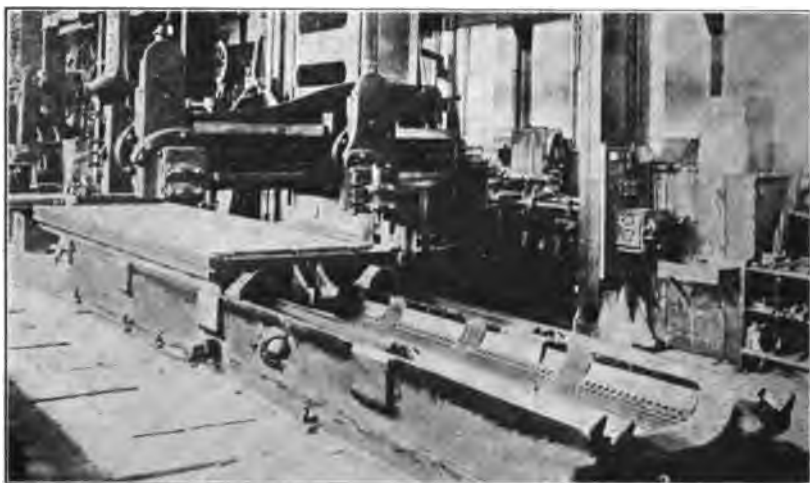


FIG. 6. — Large planer equipped with a neat and substantial bed plate filler.
Same is made in sections.



FIG. 7. — Milling machine with gears guarded. The guards are of substantial construction and ought to give service equal to the life of the machine. It is very unprofitable to install flimsy guards.

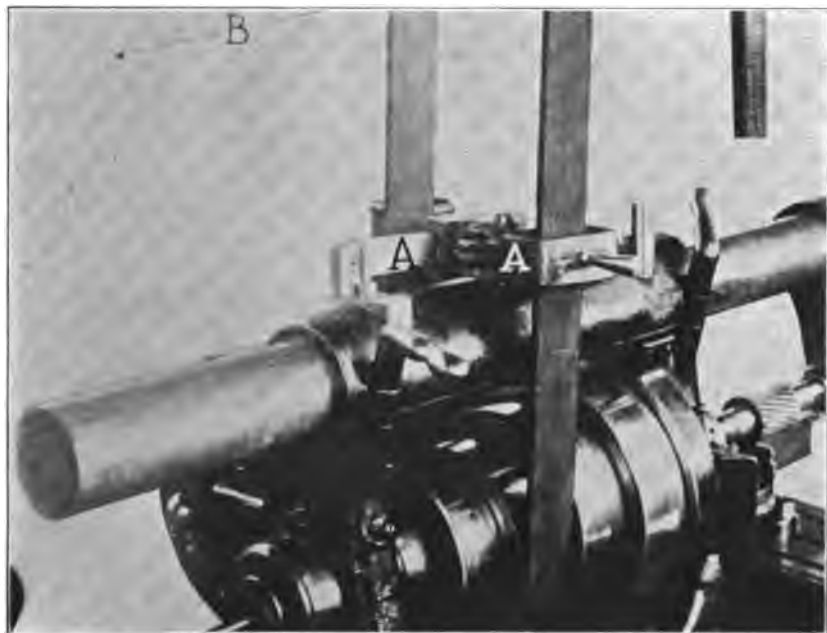


FIG. 8. — Milling machine equipped with a belt shifter, thus making the handling of belts unnecessary. The hand shifting of belts has resulted in hundreds of accidents, especially where metal lacing was used. The device illustrated eliminates this cause of accidents and is a recognized convenience to the operator.



FIG. 9. — A boring mill with gears totally unprotected.



FIG. 10. — The same boring mill as illustrated in Fig. 9, with the gears substantially guarded. The drives are also shown guarded.



FIG. 11. — A large lathe with individual motor drive, but all gears unguarded and exposed to contact.

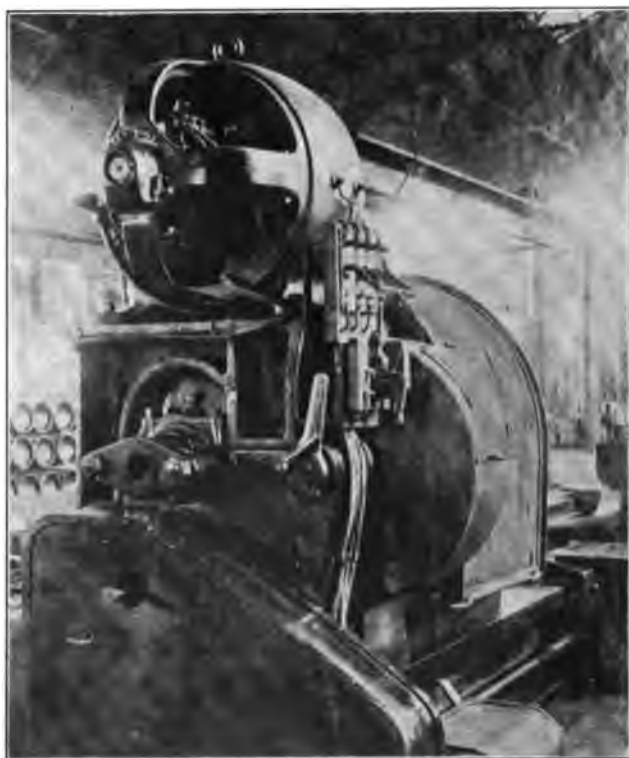


FIG. 12. — The same lathe as illustrated in Fig. 11, with gears suitably and substantially guarded. The guards are of a removable type, which affords ready access to parts guarded if necessary.



FIG. 13. — A substantial and suitable railing around a permanent opening in the yard. The foundation of railing serves as a toe board to prevent anything from rolling into opening.



FIG. 14. — A suitable pipe railing around stairway and a toe board which prevents materials from falling on to users of the stairs.



FIG. 15. — A guard rail in front of a doorway which opens directly on to the railroad tracks. A similar railing should be used at "blind corners" of buildings, etc., and at all such locations where one may come on to the railroad tracks without being able to see an approaching car.



FIG. 16. — A suitable guard which serves to prevent narrow-gauge engine from passing shop door without pausing.



FIG. 17. — Bending rolls with gears exposed to contact and unguarded, and, therefore, greatly exposing operators to danger.



FIG. 18. — A similar machine as that illustrated in Fig. 17, with all gears suitably and substantially guarded. The guard is made with hinged covers or doors at places where it is necessary to get at frequently for purpose of oiling, etc.

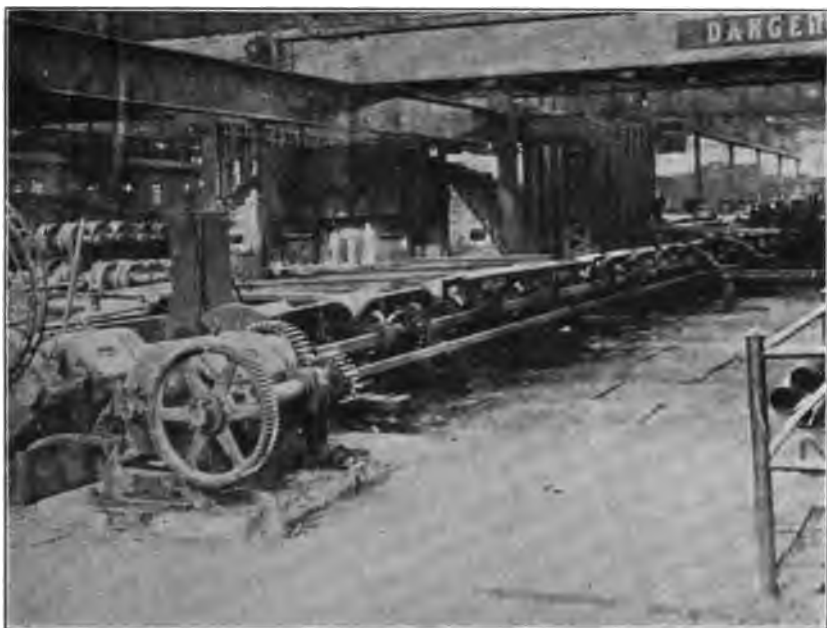


FIG. 19. — A low line shaft running along the length of the room, with many sets of gears dangerously exposed to contact, affording a great source of danger to employees.



FIG. 20. — The same line shaft suitably and substantially and neatly guarded and protected. The guard shows openings at gear locations to be used by oiler. The shaft is totally enclosed, and it is clear that conditions have been improved tremendously.



FIG. 21. — A low line shaft, with gears, projecting bolts, etc., dangerously exposed to contact, which have been neatly and substantially guarded. A suitable cross-over equipped with hand rails on both sides is also shown.

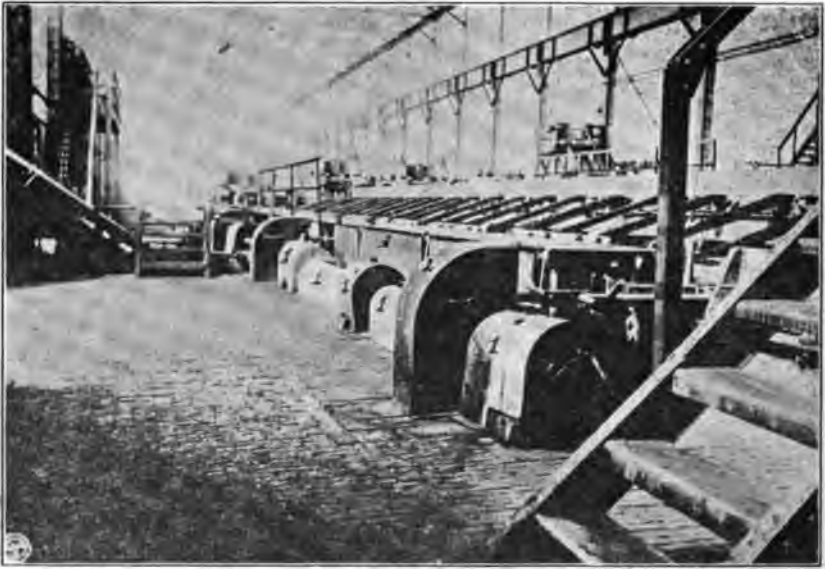


FIG. 22. — Another low line shaft with gear wheels and coupling which have been neatly and suitably guarded, thus affording protection to employees.

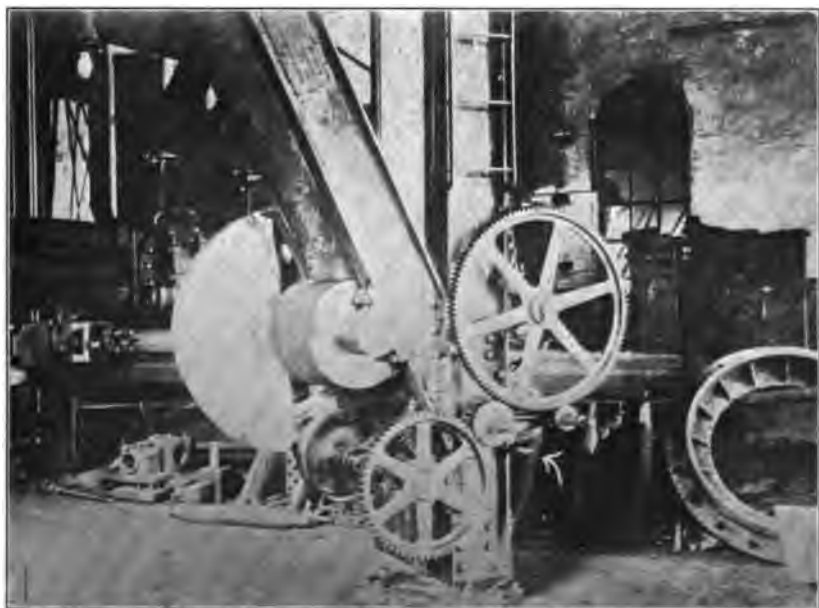


FIG. 23. — A hand jib crane with gears and gear wheels dangerously exposed to contact.

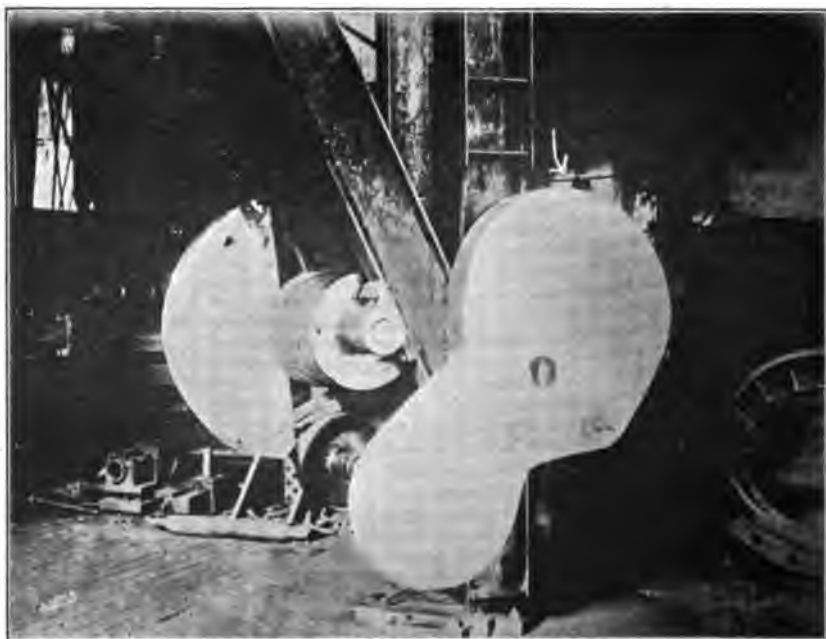


FIG. 24. — The same hand jib crane suitably and substantially guarded.

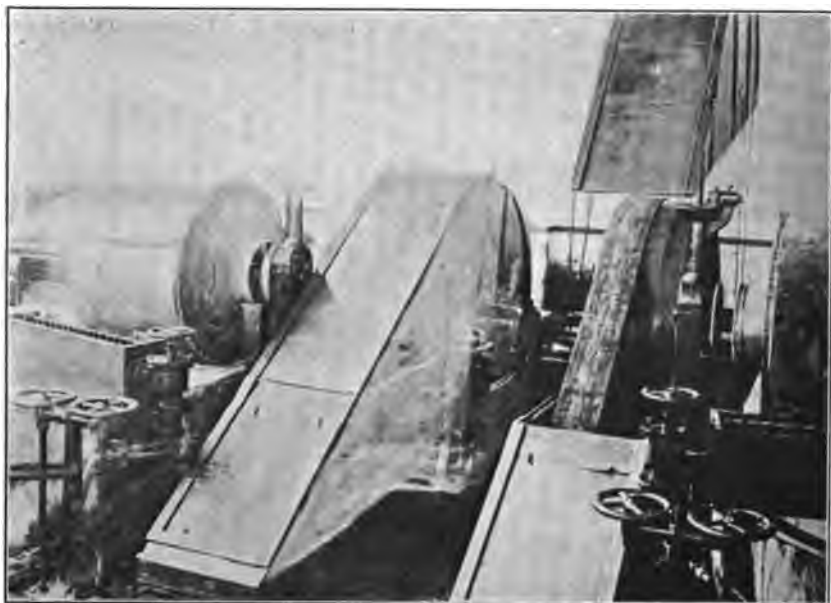


FIG. 25. — Rag machine transmission well guarded. Drives of this class of machinery should be completely guarded, as invariably women work around such machines.

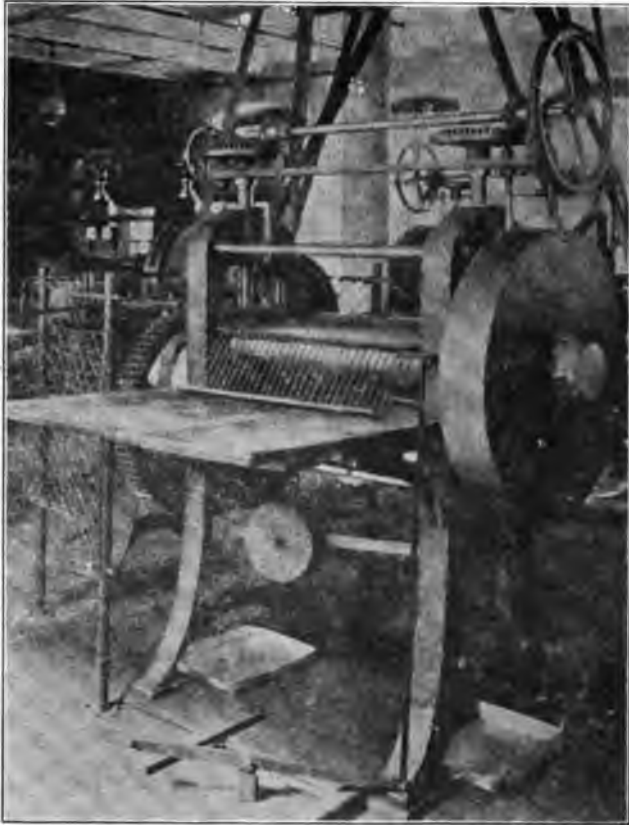


FIG. 26. — One of the several ways of guarding calenders to prevent fingers and hands of operators from being drawn in between the rolls. The gear wheel and drive are also shown guarded.

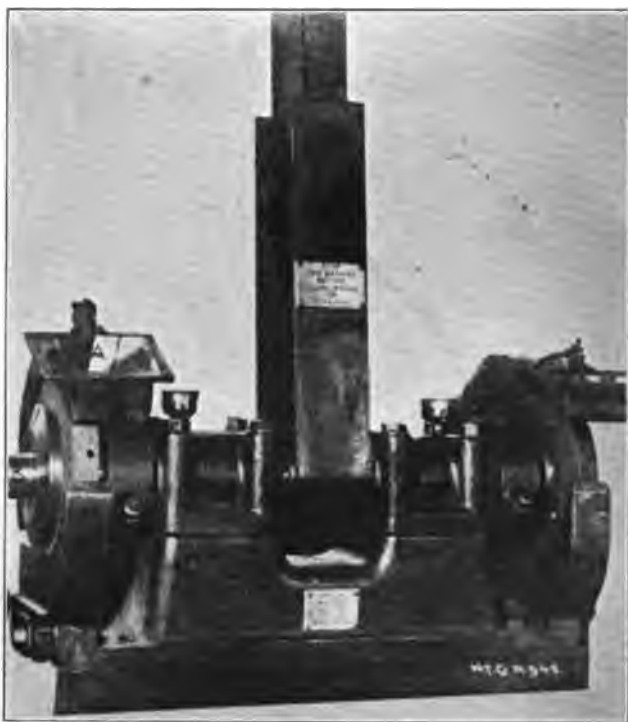


FIG. 27. — Emery wheel properly guarded, showing hoods, shield and belt guard. The guards are of substantial construction. The guards around wheels are of such rigid construction that it is apparent that a bursting wheel would be retained. The shield A offers a protection to the eyes of operators from flying particles.

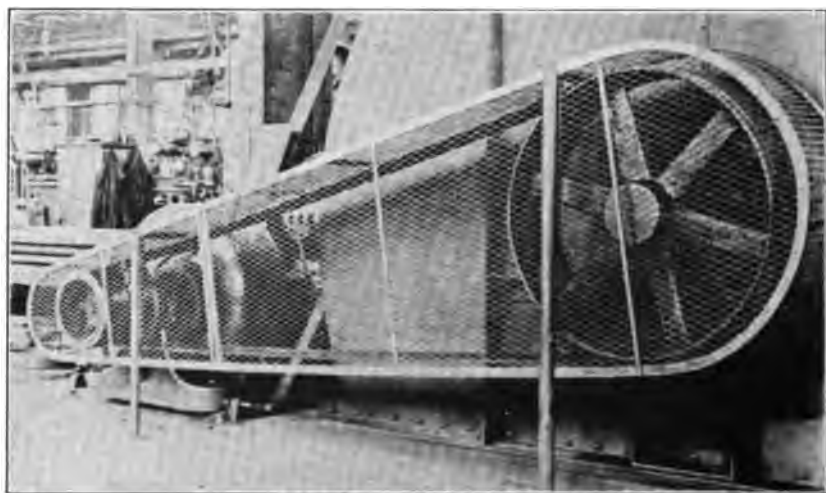


FIG. 28. — Wire mesh belt guard which totally guards pulleys and belts and is of a type that can be removed and easily replaced if desired.

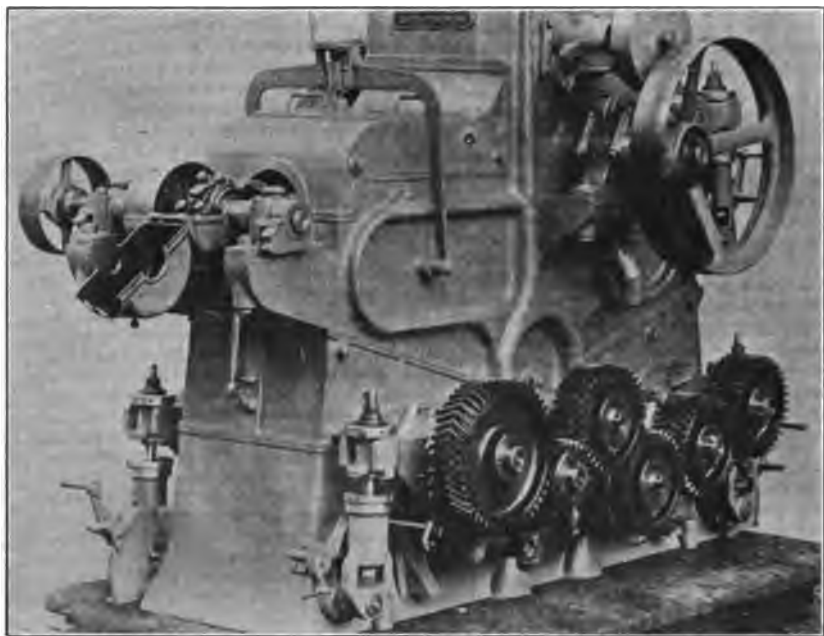


FIG. 29. — Gears on malt grain mill unguarded, and exposing operators to considerable hazard.

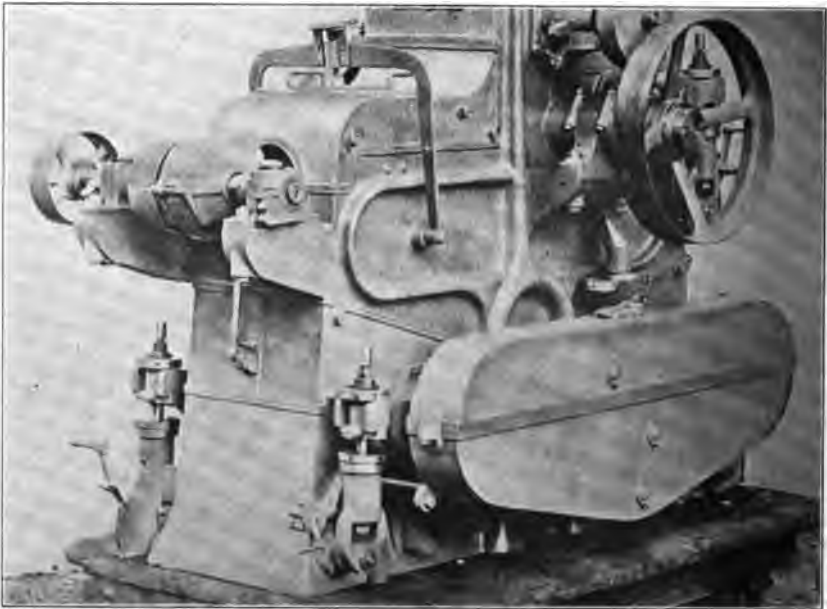


FIG. 30. — Same gears suitably and properly guarded, the guard being so designed that it can be removed if desired.

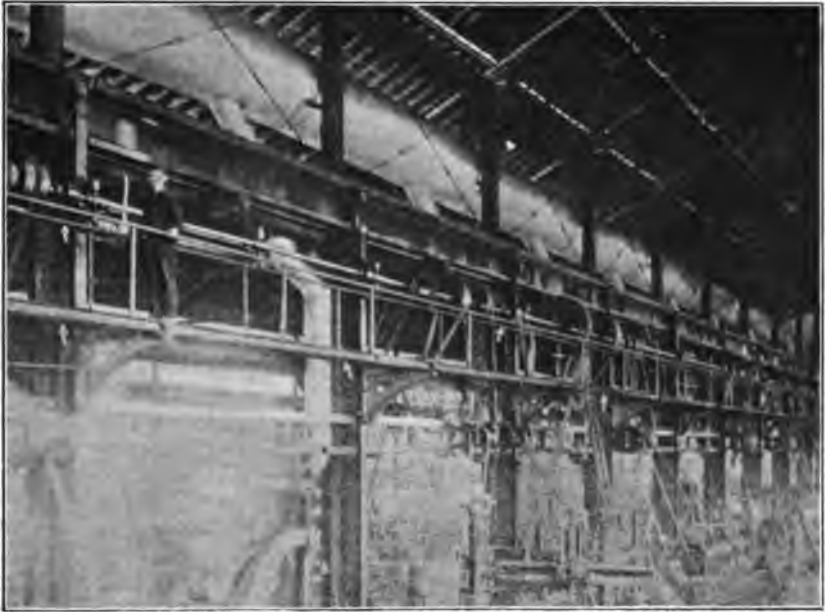


FIG. 31. — An overhead walk or run for oilers along the main line of shafting. This does away with the necessity of using a portable ladder and makes conditions as safe as possible for those who must use it. A hand rail and toe boards are also shown.



FIG. 32. — A portable ladder equipped with nonslipping safety shoes.



FIG. 33. — Casting chipper wearing goggles. The screen protects other employees from flying chips.

EMPLOYERS AND SAFETY WORK.

Early in its administration of the act the Industrial Accident Board directed attention to the tremendous loss resulting from the passive attitude of employers of Massachusetts toward the movement to remove causes of industrial accidents and occupational diseases, and urged all employers in the Commonwealth to co-operate with the Board in this great work. The activity of the Board led to a recognition by employers that their interests would be best conserved by the reduction of personal injuries to their employees to a minimum, and safety work has steadily advanced to a point where it is considered a permanent institution in industry.

Before the Board began its safety campaign very little safety work was done in places of employment in this State. Several of the largest employers had safety organizations in their plants, but these employers were regarded by the majority of other employers as possessing vast financial resources which permitted the expenditure of large sums for safety work, while it would be impossible for the average employer to spend anything. The Board undertook to correct this erroneous impression, and the success of the undertaking is attested by the fact that safety organizations are in effective operation in large and small industrial plants throughout the State, and it may be safely asserted that not one of the employers who has taken up safety work along the lines defined by the Board would be willing again to operate his plant under the conditions which existed before he began his safety work.

High efficiency of employees is the ideal desired in every modern industrial plant because high efficiency means prosperity. The progressive employer appreciates the fact that safety work is a valuable efficiency measure. He realizes that the work of eliminating unnecessary hazards in industry does not require the expenditure of large sums of money for expensive and impractical safeguards, and that safety work is not a fad or a philanthropic undertaking, but a sound business proposition which will net a substantial financial profit, and a humanitarian effort which will strengthen his business organization and have a beneficial effect upon the community. In fact, some employers in this State have taken up, in addi-

tion to safety work, the social welfare of their employees, but are proceeding slowly with this work through fear that their endeavors may be misconstrued as paternalism.

The Board has constantly attempted to promote the co-operation of employers and employees in safety work, ever mindful of the fact that the greater the co-operation the greater the success of safety work. In the beginning employers were not always receptive to recommendations for greater safety because they believed the carrying out of such recommendations would entail expense for safeguards and loss of time for employees for which there would be no adequate return, in addition to impeding the work and thereby adding to the cost of production. Many employers have since learned that the ideas of their employees, gained through co-operative safety work, were worth many times the value of the time consumed in such work and the money spent for safeguards. In many industrial establishments, where recommendations for greater safety were not previously received with enthusiasm because of a lack of thorough understanding of the value of safety work, such recommendations now are not only welcomed but are frequently requested.

The incentive offered employers for safety work is greater than ever before. Insurance companies transacting workmen's compensation business in this State have organized the Massachusetts Rating and Inspection Bureau, through the operation of which each employer may be charged a rate for insurance based upon the particular conditions existing in his plant. If conditions in a plant are better than the average in regard to the number of accidents and the elimination of hazards, the rate of insurance will be reduced accordingly. If plant conditions are inferior to the average the insurance rate will be increased. Thus the direct benefit of safety work is shown in this illustration. The Commonwealth and the compensation insurance companies offer the services of trained inspectors to aid employers in the solution of safety problems. Millions of dollars have been lost to industry through lack of effective safety work, but the opportunity to save millions in the future through this great work is presented to employers.

Before preparing the third annual report the Board invited some of the employers of the State to furnish information

regarding their experiences with safety work. A large number of interesting reports were received in response to the invitation, and from these were selected those in which employers assented to publication of their names, and they are published in connection with this chapter.

WALTER BAKER & CO., LIMITED, MILTON, MASS.

We have adopted in our plant a form of organization which best works in with our conditions, and instead of having a "safety committee" we have a safety inspector. At the present time the inspector is our assistant superintendent, and he reports directly to the superintendent all matters which he thinks should receive attention. For at least three days in the month his time is devoted entirely to such an inspection of our plant, and naturally, in the course of his other work around the factories, he is on the lookout for such matters. His recommendations take the form of a written report to the superintendent, who in turn takes up the matters in consultation with the master mechanic, the assistant superintendent and the foremen in whose departments the conditions exist, and orders are then issued by the superintendent to have the conditions improved. This system has been in force with us for some five years, and has worked out very satisfactorily. It has resulted in considerable improvement in the proper guarding of belts, pulleys, gears and moving parts of machines. It also has resulted in a rearrangement of our exit doors, so that they all open outward, in old buildings as well as new; in a careful arrangement of fire pails and fire extinguishers, which are lighted by red pilot lights, to mark their locations, and, of course, a careful scrutiny of all portions of the plant for accumulations of odds and ends which would be dangerous in relation to fire.

BOSTON GEAR WORKS, NORFOLK DOWNS (QUINCY), MASS.

We organized a safety committee about Jan. 1, 1912. The organization of the committee consists of superintendent, assistant superintendent, president of the Boston Gear Works Benefit Association and department foremen. This makes a total committee of approximately twenty-five men.

The permanent members of the committee are the superintendent, assistant superintendent and the president of the Boston Gear Works Benefit Association.

Duties of the committee are to make a general inspection of the plant daily, the superintendent and assistant superintendent making their daily inspection between the hours of 7 and 8 in the morning, the foremen looking after their departments at all hours, and reporting any improvements, safeguards or other conditions which should be brought to the attention of the executives of the plant.

The superintendent makes a daily report on printed form of information, as follows: —

Factory Report for Accident Prevention.

1. Passageways, trucks, ladders, holes in floors.
2. Shafting, pulleys, belts, clutches, setscrews.
3. Exposed gears, machines out of repair.
4. Smoke, dust, cases, oil, lanterns and electric W.
5. Loose clothing and sleeves.
6. Cyanide, blacksmith and case-hardening department.
7. Personal carelessness around machines.
8. Dark places, pits, slippery walks and stairs.
9. Engine Nos. 1, 3 and 4.
10. Condition of yard, nails in boards, sheet iron, rubbish.
11. Sprinkler system, fire apparatus.
12. Telephone.

Remarks:

The department foremen make reports as conditions arise, and there is a foremen's meeting once a month in which these as well as other conditions of the factory are brought out.

To stimulate interest in the matter of safety we are members of and subscribers to the National Safety Council and their literature, distributed weekly, is put on our bulletin boards as well as notices and warnings of our own.

There are several changes which have been brought about due to these meetings, such as the replacing of lights, guards on machines and other work of a similar nature.

We have made no statistical study of the results accomplished, but know same to be considerable from the fact that we have not had an accident of a serious nature in our plant, and the time lost by the men is mostly due to several cases of blood poisoning, and not to incapacity due to injury or loss of fingers, etc.

We have not kept any particular costs. Would say that our fee into the National Safety Council is \$15 per year, and this is really the only fixed charge which we have.

DENNISON MANUFACTURING COMPANY, FRAMINGHAM, MASS.

When an accident occurs in this industry the injured employee is sent at once to the factory clinic. The graduate nurse in attendance renders first aid to the employee, and if the injury is serious she calls a doctor. The nurse subsequently renders such assistance as is needed to each injured employee until he has completely recovered.

As soon as an accident has occurred each department head fills out a printed accident report and sends it to the nurse. The nurse adds to this report a description of the injury, the name of the attending doctor if one has been called, and the probable period of disability. This report is then sent to the employment department.

The employment department sends a report of the accident to the Industrial Accident Board and to the insurance association. A report of the accident is also sent both to the safety engineer in the mechanical

department and to the subcommittee on accident prevention of the Men's Mutual Relief Association. This is an association organized by the employees to provide weekly payments to its members if disabled through accident or sickness. The original accident report, which was filled out by the head of the department in which the accident occurred, is then sent to the manufacturing committee. The manufacturing committee is composed of the works manager and six superintendents of the different divisions of the business.

On receipt of the accident report from the employment department the safety committee, composed of the safety engineer and the subcommittee of the Men's Mutual Relief Association, goes to the place of the accident. This committee then determines what steps can be taken to prevent similar accidents, and reports its recommendations to the manufacturing committee.

When the manufacturing committee approves the recommendations of this safety committee, or when it decides to provide any other safeguards, the superintendent of the division which is affected by the recommendations takes the steps to provide the safeguards that are suggested. When machine guards are proposed they are provided by the safety engineer.

In addition to investigating each accident the safety engineer inspects all machines at stated intervals to see that any guards that have been provided are in use, and to provide guards for any other machines that are dangerous in any degree to their operators. In 1914 we applied 281 guards, and in 1915, 152 guards, to dangerous machines.

Many of the accidents which are reported can be prevented only by the exercise of due care on the part of the employees themselves. Suggestions on accident prevention appear in a booklet that is given to each new employee. Educational work in accident prevention is also provided through safety bulletins which illustrate accidents that are common in this industry and which can be prevented only by the exercise of care on the part of our employees. These safety bulletins are posted for one week in each department. The attention of employees is directed to accident prevention, also, by means of printed slips which are occasionally inserted in their pay envelopes.

Employees are, moreover, invited to suggest means that can be adopted to prevent accidents, and for every suggestion that is adopted either a certificate or a sum in cash is given to the suggestor.

The effectiveness of the steps taken by this industry to reduce the number of its accidents, especially those of a serious nature, is indicated by its accident statistics. Following is a comparison for two years: —

	1914.	1915.	Reduction (Per Cent.).
Accidents reported to the insurance association,	71	59	17
Time lost in days from these accidents,	1,424	550	61
Accidents involving medical expense or disability payments, .	54	23	57
Amount expended for medical expense and disability payments,	\$1,574	\$597	52

GENERAL ELECTRIC COMPANY, PITTSFIELD, MASS.

Our safety committee was organized in February, 1912.

The committee is composed of five members: (1) the assistant manufacturing superintendent as chairman; (2) a section superintendent of the manufacturing department as secretary, this section including our large and small standard transformers, testing and punch press work, etc.; (3) a section superintendent in charge of the foundry, pattern shop, molded insulation departments, who is also a member of our manufacturing department; (4) an electrical equipment engineer, who is a member of our manufacturing department; (5) the head of our educational and welfare department.

All members of the committee are permanent.

The duty of the committee is to meet occasionally, make inspections, make safety recommendations, study hospital statistics and carry on lectures and safety work in general.

Committee meetings are usually arranged to be devoted entirely to discussing safety matters or to making inspections. Reports are then made of the meetings, and when recommendations are approved by the manager they are put into operation. The foremen are encouraged to put in requests for safety devices, and many of these are installed without being referred to the safety committee. In the same manner, safety educational work is carried on continuously.

Various methods are used to stimulate interest in safety work, this being a very important question. Through our monthly workpaper, "Current News," we keep bringing to the attention of our people safety matters. Fully 80 per cent. of the copies of this paper go home. This paper is also a useful medium for many other purposes. We distribute each month 4,000 copies. Occasionally we give all of our foremen and assistant foremen, numbering 178 men, lectures on safety, tuberculosis, prone pressure of resuscitation, etc. Then, again, we are frequently called upon to give lectures on safety, first aid, etc., in our churches, schools and clubs. These talks not only reach a number of outsiders, but many of the children of our city as well, who naturally take the safety material home with them. The local papers invariably have a reporter at these meetings, so that they are written up in the daily papers, reaching our people in the works again

from a different angle. In order to maintain interest, which is really one of the most difficult things in safety work, it is necessary to be continually presenting the subject from a different viewpoint.

Among the more important things accomplished may be mentioned the following:—

Prone Pressure Method of Resuscitation.— Instruction in this method to our foremen and assistant foremen, as well as some of our people, has been extensive, besides which many dangerous electrical places have been protected, practically eliminating fatal shocks. In 1913 five people were shocked and resuscitated by the prone pressure method. In 1914, and so far in 1915, it has not been necessary even to use this method, although at the present time we feel the necessity of doing this work over again.

Goggles.— Serious eye cases have been practically eliminated since goggles have been extensively used. During the past year we did not have a single bad eye case.

Molders' Shoes.— In our foundry foot burns have been greatly reduced since molders' shoes were introduced. At one time the number of foot burns which we had were extensive. Now it is seldom that we have a bad case of foot burn.

Punch Press Accidents.— This character of accident has been greatly reduced since non-repeat attachments have been placed on some of the presses, and since the use of hand pliers for placing material between the jaws of the punch press has been made compulsory.

Strains and Ruptures.— This type of accident has been greatly reduced in two ways: through medical inspection of new employees, seeing that the new men are properly fitted to their tasks; and again, by calling the attention of our people through our works paper to the importance of proper care in lifting.

Nail Punctures.— Through special efforts in our shipping department and through our instructions in first-aid methods, calling attention to the serious character of wounds from nail punctures, we have greatly reduced this class of accidents also.

These cover some of the important cases in which our greatest reductions have occurred.

The cost of safety devices installed in the Pittsfield Works for 1912, 1913, and 1914 is as follows:—

1912,	\$5,643 96
1913,	3,108 18
1914,	3,565 94

There are three important elements which have an important bearing on any successful safety endeavor.

(1) It does not depend so much on the particular type of safety organization or safety methods which are used in any particular community or place, as it depends upon the leadership which is given to this work and the ability of this leadership to secure effective co-operation. In one place you will find one individual supervising all of the safety work; in another

place a permanent safety committee will be handling the safety work; and in still other cases the safety committee is made up largely of the rank and file of the organization. Cases could be mentioned in each of these classes where very successful results have been obtained, showing that it is not so much the method used as the leadership given to the method.

(2) The second important factor is to work as closely as possible through the general foremen, who should be the active sources of support to any central safety movement that may be undertaken, these men being held individually responsible for the general safety of their department.

(3) The safety educational work is twice as effective as the installation of safeguards, and costs considerably less to maintain. At the recent Safety Congress held in Philadelphia, attended by about 1,200 safety engineers, this last thought was the keynote of the whole convention.

HAMPDEN CORUNDUM WHEEL COMPANY, BRIGHTWOOD, SPRINGFIELD, MASS.

Our "safety committee" was organized September, 1914, through what we are pleased to call the Foremen's Club. This means that the foreman of every department is a member of the organization, and we hold meetings every Friday afternoon at 4 P.M. to discuss matters of safety as well as matters of general interest to our business. This committee of foremen consists of twelve members, each representing as many departments in the factory. It might be well at this time to say a word in regard to the method we employ.

Our factory, ranging in employees from 90 to 100 in number, allows the "personal touch" to predominate in our dealings with the men. The foremen, at the meetings, call attention to what they deem to be unsafe, or some method of work that is liable to cause an injury to some of the workmen. This is placed in the minutes of our meeting and is read at the next meeting, so as to insure action being taken on whatever recommendation has been made, or if no action has been taken, to give reason for the same. This committee is permanent as long as the foreman holds his position. The individual foremen instruct their employees that safety comes first. They likewise instruct them that they must use care and caution in their work, and that if the piece of work or tool seems dangerous, they must refuse to do the work or use the tool. They likewise are instructed to take personal interest in the men to see that they have every comfort consistent with their ability to do their work properly, and if a man complains or objects to the use of a tool or method of doing work, to bring the matter before the meeting so that it may be discussed and action taken accordingly.

When a man is injured it is the duty of the foreman to draw the attention of every workingman in his room to the fact, and explain to them how it occurred and to urge on them the necessity of avoiding a like occurrence in their own case.

Our expenditures for safeguards have been as follows: installation of hoods (5 of them) at an average cost of \$21 each; installation of gear

guards (about 11 in number) at a cost of about \$4.80 each; placing of handrails in galleries at a cost of \$12, covering of open vent holes that lead to our dry room for the purpose of drying our wheels, at a total cost of about \$27.

HEYWOOD BROTHERS AND WAKEFIELD COMPANY, WAKEFIELD, MASS.

Heywood Brothers and Wakefield Company have organized for safety. The form of organization is designed to conform as nearly as possible to the regular executive organization of the plant; to enlist the active co-operation of employees in the exercise of care in their work and in thought concerning methods of promoting safety; to insure regular inspection of the plant; and to prevent any lapse in the interest and activity of those responsible for the maintenance of machinery and other devices in such a state of repair as will reduce the accident liability to a minimum.

To secure the foregoing results a printed notice was posted throughout the plant calling attention to the safety organization and the expense to which the company has been in adopting the best known methods and devices for the prevention of accidents. Employees are urged to use every precaution to avoid accidents and to promptly report any defective machine or appliance. They are urged, also, to study the conditions under which they work, and are advised that any suggestions for better or safer methods will be welcomed by the management and given consideration. Every foreman is constituted a member of the organization, and is given instructions to co-operate with the employees immediately under his supervision. Department superintendents likewise secure regular monthly reports from their foremen, and in turn render a written report each month to an official connected with the factory management in the main office of the company, who heads the safety organization so constituted. This monthly report provides for designating changes which have been or should be made, and is subdivided to cover floors, stairways, piping, machinery, elevators, shafting, belts, tools and other appliances. There is provision for recommendations made by employees during the month, giving the name of the employee and the nature of the suggestion. The form also provides for the cost of safety devices installed during the month, and for action taken on recommendations.

The results since we organized for safety have been reasonably satisfactory, and a number of suggestions have come from employees which have almost without exception been found practicable and been adopted. Various additional guards for machinery have been installed, although the plant was well equipped in this respect prior to the date of organization for safety. While the practice of requiring reports of every injury, regardless of its nature, has resulted in an increase in the number of accidents reported there has been a decrease in the accidents of a serious nature, there having been no accidents whatever which have resulted in any dismemberment or with serious results since we organized for safety. Because of the nature of the organization the cost of forming and maintaining it has been almost negligible, and because of the thoroughness with which the plant had been

equipped with safety devices prior to the date of organization, there has been no heavy cost of installation since that time, a few hundred dollars only having been expended. It is estimated that the safety devices provided throughout the plant during the last five years have cost somewhere in the vicinity of \$5,000.

JAMES HUNTER MACHINE COMPANY, NORTH ADAMS, MASS.

We organized our shop safety committee Jan. 15, 1915, although we had spent some \$1,000 previously on safeguarding machinery.

Our committee is composed of one permanent chairman and secretary, who is shop engineer in general charge of all repairs to machinery and buildings, and three other members appointed at random out of the various departments in the plant to serve two months. We at first appointed the foremen of the different departments, from, say the wood-working shop, erecting shop and foundry. Next, one out of each of the machine departments and one from the foundry. As our foundry is about a mile from our machine shop we aim to have one from that department every two months.

They work as individuals in their different departments, and every two weeks the entire committee of four make an inspection of the whole plant, and all are free in offering any suggestions they think of value in any department they may be in, and after deliberation these suggestions are handed to the general superintendent for his approval. The suggestions are numbered as per the following:—

1. Lathe No. 19, guard should be larger.
2. Lathe No. 18, guards should be made for change gears.
3. Lathe No. 18, guards should be made for change gears.
6. Counter for machines No. 65 and No. 86 should be guarded.
13. Suggest that foundry have mechanic look over air hoist trolleys at least once a month to see that screws and bolts are tight.
20. Guard on machine No. 143 ought to have hinged cover so that gears can be oiled without taking off guard.
- Found guard on machine No. 101 broken, also that two setscrews on countershaft had not been changed from square to headless.

They also report on general cleanliness of each department; for instance, the committee reported on February 27 that they found two guards off emery wheels in Department B, also several boards lying around with nails in them, and a general letter was sent out to all departments to this effect, as follows:—

The shop committee are repeatedly reporting that they find guards off emery wheels, and that loose boards with nails in them are allowed to lie around on the floor. We must see that measures are taken against this, as there is probably more danger from these two particular things than almost any other hazard that we have around the plant. Kindly see that the safety committee can hand in a clean report in future so far as these conditions are concerned.

We have also put up the various "safety first" signs recommended by you, and cards illustrating accidents.

We have up to date put into effect all recommendations suggested by our safety committee.

We have made no statistical study of the results, but believe that we are having less minor accidents.

We have spent approximately \$1,200 in guards and rails both before and after organizing the safety committee. Eternal vigilance seems to be the price of liberty in all things, so that with a safety committee on the job to report machinery and buildings unsafe, and to report the negligence of employees in the use of what has already been put in for their safety, we believe that we get better results than to wait until we have an accident to remedy an unguarded machine, stairway, etc.

HUNT-SPILLER MANUFACTURING CORPORATION, BOSTON, MASS.

While we have a safety committee, duly organized about one year ago, which is composed of the heads of departments and foremen, and which reports to our mechanical engineer, Mr. A. B. Root, Jr., this committee does not have regular meetings, nor does it work in an organized way. No records are kept of its operations, and no figures of cost are available. Its members serve individually, and report individually any matters affecting the safety of individuals, or the safety of the buildings and property.

We follow the work of the safety committee of the New England Foundrymen's Association and the N. A. S. O. very carefully, and put into effect practically all of their recommendations. The result of this work has been very gratifying in reducing the number of serious accidents, and, to some extent, the minor accidents also.

To sum the whole matter up, our opinion is best expressed in the slogan of the N. A. S. O., "Personal caution is the greatest safeguard after all."

A. C. LAWRENCE LEATHER COMPANY, PEABODY, MASS.

On March 5, 1914, we organized a safety committee to cover the Main, Endicott Street and Waters River Plants. This committee was made up of the master mechanic, chief electrician and office manager; also, a safety committee to cover the National Calfskin Company's Plant, made up of the master mechanic, chief electrician and office manager of that plant. The members of these two committees are permanent, their duty being to investigate causes for accidents; to place the responsibility for the same; and suggest changes whereby accidents of a similar nature might be avoided, making a report direct to the general superintendent.

In April, 1914, four inspection committees were organized to cover the following departments of the A. C. Lawrence Leather Company's interests at Peabody: the sheepskin department, hide department, Waters River department, and National Calfskin Company. These committees were made up of one foreman, one subforeman and one workman, their duties being to make a regular monthly inspection of their departments, submitting a report of everything that came under their observation that could be changed, repaired or guarded, or making any suggestions that to their

minds would insure safety and reduce the accident liability. The members of these committees are chosen, one for three months, one for six months and one for nine months; also, one member of the committee of one department is exchanged for one member of the committee of a different department every month, giving all members, as far as possible, a chance to do inspection work on all plants.

The reports of these committees are first submitted to the master mechanic as to their practicability from a mechanical standpoint. If recommendations are found to be of a practical nature they are then approved by the general superintendent, and returned to the mechanical department to be carried out. We find that, as a general rule, there are very few recommendations made that are not practicable or do not have some real merit.

A monthly meeting of the combined safety and inspection committees is held at the main plant, the office manager acting as chairman. Accidents for the previous month are discussed, also suggestions contained in the previous month's inspection reports, and there is a general discussion on safety first methods. Members of the committees seem to take a general interest in the meetings, especially as they know that any recommendation which they make which is of value to this movement is carefully carried out by the company.

One of the methods of stimulating interest among the employees is to place a large sign in every conspicuous place in all the factory buildings. This sign has a white background with a large red circle, and printed in red letters is "Safety first means a lot to you." Another method is to make personal canvass among the foreign-speaking help by the aid of interpreters, explaining the meaning of these signs and the safety-first movement; also, all employees are given an 82-page book on "Rules and Regulations for Prevention of Accidents." This book is well illustrated, and printed in different languages.

The important things accomplished through the efforts of the inspection committees are a more effective guarding of machinery, elevators, stairways, trapdoors, etc.; better lighting in dark passages; more attention paid to imperfect floors, etc. While before the committees were organized considerable attention was paid to liability risk, annual inspections being made and a good deal of money spent in guarding and general safety work, we feel that with the addition of these committees the matter is kept before us at all times, and smaller details that otherwise would have escaped our attention have been reported and remedied.

We have spent at least \$10,000 in the last two years on this work, and feel that our plants are in very good shape as regards liability hazards. We think this fact is borne out by the diminishing number of suggestions from the different inspection committees, also the smaller number of accidents of a serious nature.

MORGAN SPRING COMPANY, WORCESTER, MASS.

We organized for safety about July 15, 1913. Our committees have been appointed with one foreman and two men from any department in our factory. This committee serves one month, and the same men are not appointed twice in any year. The duties of the committee are to make any suggestions that will safeguard our employees. They receive their instructions from the superintendent as to what they are to look for, as well as work under any suggestions that they may have to offer. They make an inspection once a month and then report, making any recommendations that they may have to offer. The principal changes that we have made have been the protection at our elevators, belt guards, gear guards, safety stops on presses, safety stops throughout wire-drawing machinery, also motor stops in case of accidents, located where the employees may stop the motor at some distance away from same. We have not made any statistical study of the results obtained, but are satisfied that we have prevented further accidents in our factory by methods and suggestions employed.

NEW ENGLAND DRESSED MEAT AND WOOL COMPANY, SOMERVILLE, MASS.

Our safety committee was organized March 5, 1914.

The committee is made up of four men: a chairman, who is one of our executives, two foremen taken from different departments and one man-at-large.

The chairman is a permanent member of the committee, as is also the secretary and one man who is a first-class mechanic. The man-at-large is changed about every three or four months and taken from a different department.

The duties of our safety committee are exactly what the name implies, — a safety committee that looks after the various mechanical devices, safety guards and general welfare of the employes, as pertaining to their occupations.

Every member of the committee has a general eye to the plant as to safety devices, and report and discuss same at their regular meetings.

We have a suggestion box with a sign over same, and to stimulate interest in matters of safety among our employes we have offered, from time to time, a reward of \$5 for the best safety-first suggestion.

The cost of installing safety devices recommended by our safety committee and others we estimate at the present time to be upwards of \$4,000.

There is a good feeling at our plant and considerable interest shown in our safety-first organization.

NORTON COMPANY, WORCESTER, MASS.

Our safety first committee was appointed in 1909. A safety first association among the employees was formed in 1914.

Our safety committee is a permanent organization appointed by the management. There are no by-laws or rules providing for its personnel. The present committee consists of seven members, — the works manager, head of the inspection department, chief engineer, power engineer, foreman of carpenter shop, foreman of truing and bushing department and foreman of the machine shop.

All members of the committee are permanent, but occasionally the duties of clerk are transferred from one member to another in order that the burden of this work may be divided.

The committee, accompanied by the clerk, makes bimonthly inspections of the entire plant, with a view to noting hazards in the respective departments, to what extent machines are safeguarded, the physical condition of the safeguards adopted, and other physical conditions which relate to safety, such as the manner in which materials are stored, conditions of floors, thresholds, etc. The clerk makes a written report and requisition for new devices that may be required, both of which are submitted to the general manager for his approval.

A safety first association has been formed, the objects of which are stated to be the following:—

To promote the safety of Norton employees by enlisting their active co-operation.

To encourage the suggestion of new mechanical safeguards and to foster the spirit of helpfulness toward safe working conditions.

To hold meetings to create and maintain interest in all matters pertaining to safety.

To become a member of this association an employee must memorize the Norton Safety Rules to the satisfaction of the membership committee. A button of special design is given to each member upon admission to the association, and only members wearing this button are admitted to its meetings. Awards are given for special services, either for valuable safety suggestions or for actual prevention of accidents.

The officers of the association act with the permanent safety committee of Norton Company and that of the Norton Grinding Company, as an executive board in charge of all safety measures. Safety rules and other useful information are printed in a handy book distributed among the men.

This association holds a series of meetings during the winter, at which reports of its activities during the preceding month are made and a general entertainment is enjoyed. A typical entertainment was a lecture with lantern slides, entitled "Horseback through Iceland." The accounts of these entertainments stimulate non-members to learn the safety rules and become members of the association.

There is also a group of inspectors, chosen by the foremen in the various departments from among their ablest men, who serve for a period of three

months. They wear a button and do not act in conjunction with the regular safety committee, but may make practical suggestions, on slips provided for the purpose, to the secretary of the safety committee.

The company publishes a series of booklets on the subject of safety and the equally important subject of health and sanitation. The former bear the following titles: —

"Safety as applied to Grinding Wheels." This is a book devoted to practical protection devices as applied to grinding wheels and grinding machinery.

"Report on Investigation of Grinding Wheel Protection Devices." This is a book descriptive of exhaustive and expensive experiments, to determine the relative protective efficiency of protection hoods and protection flanges.

"Standard Safety Specifications" is a booklet distributed to foremen.

Other safety booklets are "Health and Safety" and "Safety Code for the Use and Care of Abrasive Wheels," and there are also articles on safety printed from time to time in the two regular monthly publications of the company.

The safety committee, at the instigation of the Safety First Association, has issued, as above, a set of safety rules for distribution among employees in an effort to induce every employee to join the Safety First Association. Placards, such as "What to do in Case of Fire" and "What to do in Case of Accidents," are printed in three languages and hung in conspicuous places.

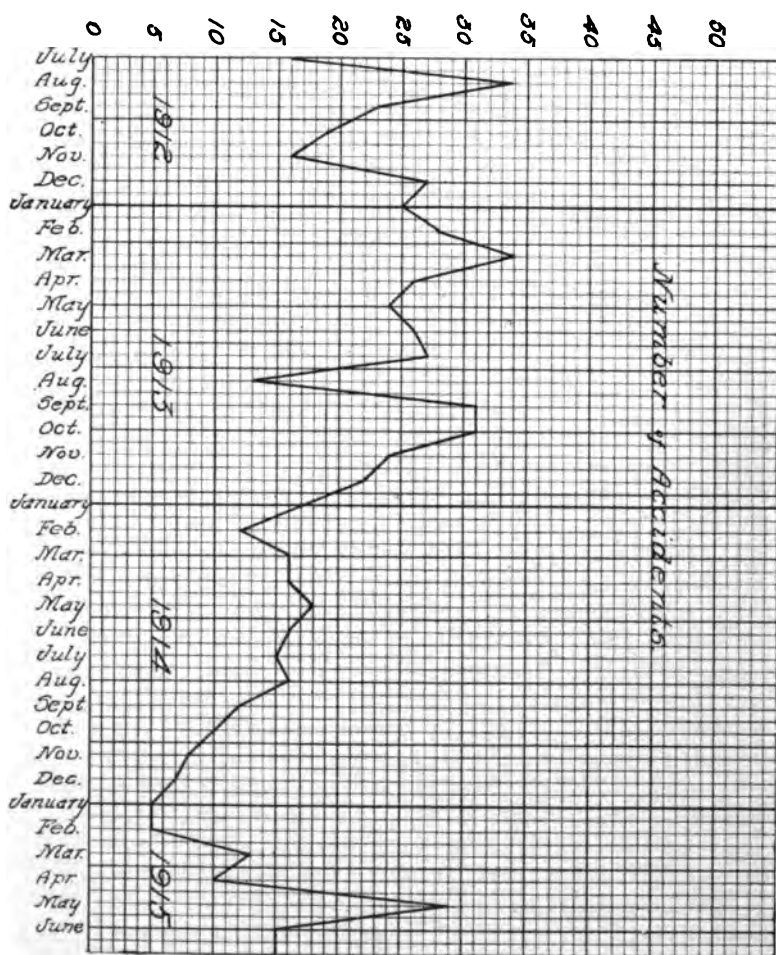
The company has established a department of health and sanitation and an emergency hospital with a regular practicing physician in charge and a trained nurse in attendance, maintained by the company. These activities, however, hardly fall within the scope of your inquiry, and therefore are not discussed more fully.

Accidents are very rare, and there was a period of nine months, since the adoption of the Workmen's Compensation Act, during which the sum of \$65 only was paid out as compensation. During the month of October there were 132 minor accidents in the plants of Norton Company and Norton Grinding Company. These were in most cases slight lacerations of the finger or a foreign body in the eye which was easily removed and not causing any injury. None of these accidents led to loss of time other than that necessary for treating the injured part of the body, nor gave rise to any claim under the Workmen's Compensation Act. This report is fairly typical of the monthly reports on this subject.

The expenses of the Safety First Organization have not been estimated except as they relate to the department of health and sanitation. We have no separate account of the cost of installation of safety devices recommended by the committee.

THE SPENCER WIRE COMPANY, WORCESTER, MASS.

The Spencer Wire Company organized for safety in October, 1913. Our employees had been running a mutual relief association for some time previously. We asked this association to appoint a safety committee of three members to serve one month, then to discharge this committee and



appoint a new one each month thereafter. The members of each committee were to make two inspections of the plant during their terms of office, and to make a written report to the Relief Association, which was turned over regularly to the assistant superintendent, who was directly responsible for the safety work. The company provided badges for these committee men, and posted various notices and safety signs and bulletins, changing them from time to time to keep them fresh, and to keep up the interest of the employees. At first the safety committee was composed of two foremen and one man from the ranks. Now a foreman is only occasionally a member of the safety committee. Our reason for making the tenure of office short was to get as many different employees as possible to serve, the idea being that after having served as a safety committee man, almost any workman would be less thoughtless of safety than before.

The accompanying chart shows that immediately following the appointment of our first safety committee there was a continually decreasing number of accidents for the next four or five months, after which the number remained fairly constant for about six months. Then the company published an offer to pay one month's dues to the Relief Association for every member who was able to keep free from accidents during the preceding quarter. This worked first rate, and during the next six months there was another continual decrease in the number of accidents.

About that time business began to pick up. The number of men on the pay roll has increased steadily, and the terms of employment of many of the new men, especially among the common laborers, have been short. These new and transient men have had little interest in the Relief Association or safety committees. Before they caught the spirit of the shop the wanderlust impelled them to quit and try a job somewhere else. The chart shows an increasing number of accidents during this period.

From time to time foremen's meetings have been called to discuss safety work. Letters have been addressed to foremen at other times, calling their attention to particular phases of the safety campaign, and to keep the issue a live one. Stretchers and additional first-aid kits have been placed throughout the plant. Safety and emergency stops have been installed wherever desirable, and tested regularly. The foremen have been made a permanent safety committee to act independently of the regular committee appointed by the Relief Association.

Certain of our mechanics have been kept busy off and on, ever since our campaign started, building and installing guards, as dangerous places have been discovered.

Dr. Byrne, who handles our accident cases, has been called in for consultation at various times to assist us in preventing cases of cyanide poisoning in the plating department, for instance, or to discover the cause of an apparent epidemic of boils among a certain group of men.

The majority of our accidents have been minor ones, and caused mostly by thoughtlessness. In all cases where injury has followed defective or unguarded equipment steps have been taken promptly to prevent a recurrence of the accident.

UNITED STATES ENVELOPE COMPANY, WORCESTER, MASS.

Our safety committee was organized in the summer of 1911 prior to the passage of the State industrial act. Its work has to do with the company as a whole, for we have no separate organizations for the individual divisions.

The men serving on the committee are selected from the superintendents and assistant superintendents of the various divisions of the company; they are five in number.

There are two permanent members of the committee, — the mechanical superintendent of the company and his assistant; other than this there is no rotation in office. The members to serve each year are designated by the mechanical superintendent who acts as chairman of the committee.

The duties of the committee are to make inspections of the various plants, to make recommendations to the division managers after these inspections, and to see that these recommendations are carried out.

Once each year the committee meets for the inspection of the different plants. At this time it is seen to that the recommendations made previously have been carried out and that additional danger places are noted. As a result of the inspections, recommendations are sent to each division manager covering both the work that is common to all divisions and that which is peculiar to his own division. The work of the committee during the year is in the hands of a secretary appointed by the chairman from among the men serving. It is his duty to keep in touch with the work at the different plants, and to act upon any suggestions which may be brought out from time to time.

At none of our plants is there any organized method of stimulating interest in the safety work among the employees. Our foremen are kept alive to the value of the work, and many good suggestions are obtained from them or from the employees through them. From time to time various bulletins, such as those prepared by the Massachusetts Employees Insurance Association, are posted. The reports of accidents are gone over carefully with the idea of determining from them some of the danger spots in our work.

We have, of course, complied with the State laws and the recommendations of the insurance company with regard to the safeguarding of elevators, lathes, machine tools and such like that are common to most plants; in fact, we made many of these changes before such regulation was required. Certain recommendations which we have made to meet our own needs, and which we believe have proved of much value, are as follows: —

All power machines operated with a foot pedal are to be equipped with suitable device acting in conjunction with the pedal to prevent accidental starting of the machine.

All hand wheels 12 inches in diameter or over are to be guarded in such a way as to prevent an operator accidentally being caught in the wheels. For this we have found a metal disk, placed concentrically with the shaft, to be the most desirable form of guard.

Driving belts and pulleys on power-driven stripping machines and the like are to be guarded for a distance of 2 feet above the table of machines.

The moving carriages of envelope or other machines must not be allowed to run within 18 inches of any fixed structure unless fenced off.

There shall be made a weekly inspection of all elevators and their operating gear, and a report rendered to the superintendent concerning the same.

Every stairway must have a handrail on at least one side of the stairs.

Belts driving emery wheel grinders and buffers are to be guarded to a height of 5 feet from the floor.

The square end of shaft on Hobbs ending machines and all others is to be protected.

Balance wheel and driving gears on cutting presses should be guarded, so that the operator in removing waste will not be liable to get caught in the same.

A man shall be placed in temporary charge of the car whenever an elevator is under repair. This man is to be instructed to guard against the accidental starting of the elevator while repair work is under way.

All buzz planers are to be equipped with safety cylinder heads.

The space between the ways of planers shall be guarded with sheet metal.

The use of all metallic belt fasteners or lacings is to be discontinued.

All line shafting projecting more than 2 inches beyond the hanger box is to be protected with a suitable guard.

The minimum open space on the shafting adjacent to any pulley should be 1 inch wider than the belt running on that pulley.

Each boiler room is to be provided with a permanent iron ladder which will extend 4 inches from the boiler wall and at least 3 feet above the brick work over the boiler.

The governor balls of engines shall be guarded with a metal band.

All elevator ropes on the mill side of partitions are to be inclosed.

We have provided at various places in all our departments electric emergency power stops. The location of these stops is indicated by suitable signs.

Previous to starting this work we had no tabulated results which could be used for comparison. Now, however, we record all of our accidents even to the most trivial, and the records for the past year show an average of only .79 accidents per 100 employees per month. For the year 1913 this average was 1.12 accidents per 100 employees per month. This record, we believe, shows up very well, for the reason that we require a report no matter how slight the accident is, with the result that accidents are noted now which formerly would not have been noted.

With regard to the cost of the work we regret that we cannot give you very definite information. We do not believe, however, that this cost has been much in excess of \$1 per employee per year, and we feel satisfied that the money and effort have been well spent.

L. Q. WHITE SHOE COMPANY, BRIDGEWATER, MASS.

The L. Q. White Shoe Company organized a safety committee in the vicinity of a year ago. We decided to have three permanent members on this committee, — the superintendent, engineer and the writer. The other three members of the committee will be appointed every three months and will make monthly inspection of the factory. They will be picked from different rooms so as to bring the need of this work forcibly to every employee. We find it gives each man a personal interest in the inspection, as he realizes his opinion is wanted, and if his recommendation is necessary and practical it is put into effect at once.

Our factory committee makes a complete tour of the factory and takes note of every condition that looks to them as though a possible accident might result from it. They are instructed to take special note of the condition of all fire apparatus, escapes and everything which would facilitate the clearing of the building in case of accident or fire.

Our most important work has been the installation of safety guards for machine belts and any exposed working parts of machines that might cause a serious accident.

We have also found that keeping floors clean and in good condition, rubbish from places that are out of the way, machines clean, etc., is greatly conducive to prevention of fires.

INSURANCE COMPANIES AND ACCIDENT PREVENTION.

When the Industrial Accident Board, in connection with the duty imposed upon it by the act to investigate and remove causes of injuries for which compensation may be claimed, instituted a campaign for greater safety in places of employment in Massachusetts, the co-operation of the companies transacting workmen's compensation insurance in this Commonwealth was solicited, and there was an encouraging response. The Board received written assurances from the companies of hearty sympathy with the plan and promises of support in the movement. These promises have been fulfilled in a commendable manner. The co-operation of the insurers and their efficient inspection staffs with the Board in safety measures has been consistent at all times, and has resulted in the great economic and humane work of preventing industrial accidents and diseases in this Commonwealth, steadily gaining from its outset an impetus which now insures its permanence.

Proceeding along lines defined by the Board the companies have made inspections of industrial plants at regular intervals and have constantly endeavored to keep their work up to the standard. The interest of employers has been stimulated, the number of safety organizations in places of employment has been greatly increased, many problems of mechanical safeguarding and education of employees have been solved, and there has been developed between employers and employees a better understanding of safety work.

The insurance companies which carry compensation insurance were invited by the Board to contribute reports of their safety work for publication. These reports, with photographs which accompanied them, are included in the remainder of this chapter.

ÆTNA LIFE INSURANCE COMPANY.

In the past year there has been no material change in the Ætina's methods of conducting inspection and accident-prevention work. The aim has been to maintain the efficiency of the inspection force and to increase that efficiency in every way possible. The results achieved have been very satisfactory and encouraging to still greater efforts.

Accident-prevention work, in one respect, does not differ from any other kind of work. There is always room for some improvement. The individual inspector never reaches that point where he knows it all. There is

always something new to learn, — some new way of handling the work to bring about the best results. Much of this is acquired by experience, but in order to keep abreast of the times it is important that each inspector know what other inspectors are doing and how the work is prosecuted in fields outside his own. In this he can be aided very materially by the home office. The *Ætna* Home Office Inspection Bureau acts as a clearing house of information for its inspectors, and anything which it receives relating to safety work is passed along to them.

The reports of the inspectors are scrutinized very closely, and if they are deficient in any particular the inspector is advised accordingly. Then again the individual inspector receives personal instruction from the inspection supervisor in charge of the field in which he is located. This is very helpful to the inspector, as the supervisor is particularly qualified to instruct and guide him in safety work and methods.

The *Ætna* has given especial attention to interesting its assured in accident prevention and the general welfare of employees. Of course, this has to be done largely through the inspectors in the field. It is very essential, therefore, that the inspector be able to do something more than just make an inspection of the plant. He must understand how safe working conditions in all ways can best be brought about. The mere recommending of safeguards will not bring the desired results. The employer must be interested, and it is the duty of the *Ætna* inspector to interest him and show him where it would be to his advantage to so improve the working conditions in his plant that the possibility of accidents will be reduced to a minimum.

The introduction of safeguards will not prevent accidents altogether, for needless accidents will occur in the best safeguarded plant if the employees are careless and unmindful of the dangers attending most all operations. To prevent accidents due to carelessness there is only one preventive, and that is to make the worker realize that if he is injured he is the one that suffers most, both physically and financially. To educate the worker along safety lines it is necessary that he also be interested in accident prevention. Interesting the worker is the duty of the employer, and it can best be done by making the employee a participant in the accident-prevention work. This leads up to plant safety organizations, of which a workmen's safety committee should be a part.

Instituting a safety organization is something of a problem to many employers, and it is here that the inspector is of most valuable service in advising what should comprise the safety organization, what its duties should be, and how it should be maintained to be effective in its purpose. Interest in safety work is, after all, the keynote to accident prevention, for with it comes safety education to the employees; safeguards for dangerous places and machinery; and improved working and sanitary conditions for the worker. It is for this reason that the *Ætna*, through its Bureau of Inspection and Accident Prevention, is devoting so much of its time and efforts to interesting or educating the employer in systematized and co-operative work for the prevention of accidents.

In the year covered by this report, 795 *Ætna* policy holders engaged in manufacturing have established safety organization in their plants. This has been brought about entirely through the efforts of the *Ætna* inspection department. In practically every instance the results in reduction of accidents, improved working conditions, and better feeling generally between employer and employee have been very satisfactory. Not only have accidents been avoided, but in some cases there has also been a considerable increase in production, due beyond question to the fact that the workers, owing to the improved conditions, worked with greater confidence and safety, and were therefore able to do more and better work.

The increase in amount of work done by the *Ætna* Bureau of Inspection and Accident Prevention has kept pace with the general growth in *Ætna* business. New inspectors have been added to our field force, and the home office force has also been enlarged. Thoroughness in work done is the *Ætna* motto. We believe that an inspector should take all the time that is necessary to inspect a plant thoroughly, and not try to make a record by seeing how many plants he can visit in a day. A flying trip through a factory, though it may show up well on the inspector's daily or weekly work sheet in number of inspections made, is not apt to be of much value, for an inspection that is not thorough in every respect is not good service.

During the past year the *Ætna* made 44,954 inspections, an increase of 8,711 over the previous year. The number of recommendations were 166,099, an increase of 58,521 over the previous year. The number of recommendations complied with were 70,440, an increase of 12,881 over the previous year.

Some of the improvements made in compliance with recommendations are as follows:—

Guarding dangerous belts and belt holes,	14,138
Guarding dangerous pulleys,	9,382
Guarding dangerous gears,	7,904
Guarding dangerous set screws,	4,369
Guarding dangerous shafting,	3,294
Guarding dangerous handralls,	2,983
Guarding dangerous grinding and polishing wheels,	2,207
Guarding dangerous flywheels,	1,119
Guarding dangerous circular saws,	1,066
Guarding dangerous boilers and engines,	763
Guarding dangerous punching and stamping presses,	306
Guarding dangerous elevated runways,	211
Replacing dangerous elevator cables,	1,464
Defective elevator shaftway protection,	1,839
Defective elevator safety appliances,	777

Quite recently the *Ætna's* inspection work in the southern and south-western section of the country has been placed in charge of a supervisor of inspection, with headquarters at St. Louis, Mo. Practically all of our inspection work is now under the direction of inspection supervisors, but subject to general supervision by the home office. Owing to the vast amount of office detail involved in our inspection work it was found

advisable to establish these inspection supervising departments, apportioning to each department a certain section of the country. This has worked out very satisfactorily. Not only has the home office been relieved of a great amount of detail work, but the inspection supervisor, being closer to the scene of operations, is able to give matters quicker attention than it is possible to give from the home office.

In our last report we referred to the safety exhibits which the *Ætna* showed at the Panama-Pacific International Exposition at San Francisco and the Panama-California Exposition at San Diego. These exhibits were undoubtedly the most comprehensive displays of accident-prevention methods and safeguards ever shown. The space allotted for the exhibit at San Francisco was 12,000 square feet, yet it was barely sufficient to accommodate the material included in the exhibit. One can have some conception of the size of the exhibit from the weight of the material originally shipped from the home office in Hartford to San Francisco, which exceeded 30 tons, and this was considerably added to afterwards. Both exhibits were very popular with persons attending the exposition, and were especially interesting to those interested in welfare work and accident prevention. It is very gratifying to this company that the exceptional merits of our exhibits were recognized by the committee of awards, and that at both the Panama-Pacific Exposition and the Panama-California Exposition the *Ætna* was awarded the grand prize.

THE TRAVELERS INSURANCE COMPANY.

Any person or organization engaging in the work of accident prevention assumes a very responsible burden, and success in bearing this burden and in discharging the obligations that are entailed can be assured only by unremitting study, work and diplomacy. When an organization such as the Travelers Insurance Company is engaged in accident-prevention work its employees must apply themselves unremittingly to a study of the problems that are involved in order to improve present practices in connection with safety work, to prepare for new problems as they arise, and to anticipate future problems as far as it may be possible to do so. This task falls largely upon our engineering and inspection division, in addition to its routine work of inspecting the physical conditions prevailing in factories, mills and mines, and those connected with railways, construction operations and other industrial activities. It is always necessary to exercise tact and diplomacy in dealing with employers and employees alike. The employer must be impressed with the importance of making certain changes in his premises and equipment in order to render working conditions safe for his employees, and at the same time the demands made upon him must be reasonable, and he must not be required to make unnecessary changes, nor be put to needless expense. The employees, who are more directly concerned, are as a rule more difficult to deal with. They have no financial responsibility in connection with changes made by the employer, and yet, although they are the ones who derive the most benefit, they frequently oppose or ignore the provisions made for their safety and well-being.

The duty of detecting dangerous conditions and seeing that they are remedied devolves upon the field inspectors. The men we employ for this work are particularly well equipped for it. They have had extensive training in shops, or in boiler rooms or mines, or on construction work, and many of them are also graduates of engineering schools or colleges. Each man is assigned to the particular duties for which his experience specially fits him. The rapid growth of the company's business during the past year has necessitated an increase of no less than 10 per cent. in the number of inspectors employed. On Jan. 1, 1915, there were 200 engaged in this work, and at the beginning of 1916 this number had been increased to 220. These men made 234,761 inspections during the year, visiting factories, shops and mines, examining construction operations of all kinds, and inspecting steam boilers and other types of vessels under pressure. The conditions disclosed by these inspection visits have been reported to the assured, and there can be no doubt that prompt compliance with the recommendations contained in the reports has been the means of averting many a serious accident as well as countless accidents of a less serious nature.

The general story of our activities in connection with accident-prevention work was told in the reports submitted for 1913 and 1914. During 1915 we have not introduced any radical changes in our methods of procedure, although we have given an ever-increasing amount of attention to the formation of definite safety organizations and the appointment of safety committees, and we have found that employers are more ready to co-operate with us in this respect as the wisdom of it has become more and more manifest.

Many of the employers of labor still appear to think that the main business of accident-prevention work is to install suitable guards around dangerous machines. Guards of course are exceedingly important things, but the education of the men to the right point of view is the greatest thing of all. As we have often explained, a shop that is well provided with good guards, but which has a careless lot of workmen, will undoubtedly have more accidents than a similar shop that is not well guarded, but which employs men who have the proper point of view with regard to the avoidance of accidents.

It has become increasingly evident, with the lapse of time and the accumulation of experience, that a proper safety organization is exceedingly important, and that a great deal of very excellent and effective work can be done through safety committees organized within the plant itself, and including in their membership a suitable number of the workmen for whose benefit the safety work is done. Our inspectors have endeavored to foster the safety organization ideas as far as possible, and we have also done the same from the home office. We have sent out a great many copies of our little booklet entitled "Safety Organization," and this has been found exceedingly useful to those forming safety committees and undertaking educational work, as well as in other ways. During the year certain of our inspectors have been specially assigned to work of this

nature and spent their entire time in organizing safety committees and addressing the workmen in the shops and factories on accident-prevention topics. Instructions were also given to all inspectors to indicate to the assured, at the time of the inspection visits, just what kind of a safety organization was best suited to the size of the plant under consideration. The inspectors are also frequently invited to speak at meetings of the employees, to assist in arousing their interest in safety work. The booklet on safety organization, just mentioned, has proved extremely helpful in forwarding this work, and a copy of it is now sent to each assured whenever recommendations are made for the organization of safety committees. In these cases the recommendations in the booklet are also supplemented by letters containing specific information and suggestions suited to the particular plants under consideration.

The Travelers Insurance Company has given great attention to the dissemination of good, sound, practical safety literature, and its department of technical publication has been exceedingly active during the year. The "Travelers Standard," a 20-page journal containing instructive articles of value and interest in connection with accident-prevention and engineering topics, is issued every month by this department. During the year 554,000 copies of this journal were printed and circulated, and an effort was made to place them where they would accomplish real good.

Simultaneously with the beginning of the publication of the "Travelers Standard," work was started on a series of technical booklets also dealing with accident prevention in various phases. Ten of these booklets were mentioned in the Massachusetts Industrial Accident Board's report for the year 1914, as follows:—

- "Grinding Wheels."
- "Elevators."
- "Boiler Economy."
- "Accident Prevention in Paper Mills."
- "Illumination and Accident Prevention in Paper Mills."
- "The Employee and Accident Prevention."
- "Foremen and Accident Prevention."
- "Organisation in Safety Work."
- "Safety in Moving-picture Theaters."
- "Accident Prevention on the Farm."

The demand for these booklets has been so great that it has been necessary to print several editions of some of them, although the original edition in each case was intended to supply the probable demand for a long time.

During 1915 we issued several other standard accident-prevention publications. The first of these, entitled "Accident Prevention in Brick-making," gives a short history of the art of making bricks, and then deals at length and in detail with the hazards of mining clay, and with those associated with the machine operations that are necessary in brickmaking. The dangers incident to drying and burning bricks and to the transportation of material in brick yards are discussed, and the manufacture of

sand-lime bricks receives full consideration. Particular attention is directed to the importance of the location of the brick yard in connection with the hazards involved in shipping the finished product.

The subject of safety in the operation of automobiles for business and pleasure is discussed in another booklet entitled "Motor Vehicles and Safety." The rapidly increasing number of automobiles, the varied uses to which these vehicles are put, and the high speed at which they travel, have combined to introduce a hazardous element in our public thoroughfares that requires serious consideration. The suggestions in the booklet relate to the care and operation of cars used for business purposes, as well as of those used merely for pleasure. The dangers common to public and private garages are pointed out, and recommendations are made for eliminating or minimizing them. Practical advice is given with regard to safe methods for storing and handling gasoline, and with regard to air-storage tanks.

By far the most pretentious publication along safety lines yet issued by the Travelers Insurance Company was brought out during the year. This is a 350-page book on "Safety Engineering applied to Scaffolds." The fact that scaffolds, in the main, are erected for temporary use only is largely responsible for the fact that they seldom receive thoughtful consideration. From the safety viewpoint they should be considered just as carefully as a permanent structure. They are often poorly designed and flimsily constructed of material that is not satisfactory either in quality or in size. As a result, bricklaying, carpenter work, painting, decorating and many other allied operations in building and construction work in which men are employed at a considerable height, and with life and limb constantly at stake, are often performed by the aid of scaffolds that are distinctly dangerous and altogether unfit for the purpose for which they are intended.

The first section of the book discusses the scaffold hazard, and the second one treats of scaffolds in a general way. The third section, devoted to bricklayers' pole scaffolds, discusses in detail the poles or uprights, the ledgers, putlogs, platform, bracing and general safety measures. Then in turn come sections devoted to independent pole scaffolds, lashed scaffolds, other forms of pole scaffolds, special safety features and general features and operations. One section is devoted to the subject of building with horses. Section 10 treats of suspended scaffolds for construction work, both of the platform type and the overhead type, and features common to both types. The remaining three sections are devoted to scaffolds of other kinds, structures similar to scaffolds and general counsel. There are 128 engravings in the book, illustrating correct and incorrect practices. In view of the paucity of authoritative data on the subject of scaffolds it is believed that this book will fill a long-felt want.

The future activities of this department will be of the same general character as those outlined above. Numerous other booklets dealing with subjects of interest to various industries are now in preparation, and these will appear from time to time during the coming year.

In connection with steam boiler insurance, written by the Travelers Indemnity Company, accident prevention has as usual played a foremost part. Painstaking and thorough examinations of boilers by competent inspectors have resulted, during the past year, in holding the number of explosions to a minimum. The design, construction, material and age of boilers bear most directly upon the fixing of proper working pressures, and it is the endeavor of our inspectors and supervising engineers to judge each risk intelligently and upon its own merits. Special attention is paid to general operating conditions, bearing not only on safety but also on economy. Inspectors are instructed to assist engineers with advice on questions involving such points. The staff at the company's home office is called upon very frequently to investigate and solve perplexing problems of many kinds.

A most important feature of the company's effort to prevent steam boiler accidents is the chemical laboratory that it maintains under the supervision of a chemist who has made a life study of feed water troubles. We sincerely believe that boiler explosions may be materially reduced in number by scientific treatment of the feed water, following a chemical analysis by a specialist. The treatment that we have recommended has been thoroughly practical, and has cured the ills from which the boiler was suffering in nearly every instance, and when the operator has given his full co-operation the more puzzling cases have also responded in time. The importance of this feature of accident prevention is not yet appreciated as fully as it should be, even though economy in fuel is often inseparably associated with the safety consideration.

Proper design of boilers is essential if the service expected of them is to be realized to the full. Correct installation and selection of fittings is not an inconsiderable factor in safe and economical operation. The company therefore has a department of design which prepares plans and specifications for boilers and their settings, and for various other types of vessels under pressure.

"Boiler Economy," a book published by this company, and previously mentioned in our list of publications, has had a very wide distribution among engineers, and fills a unique place in engineering literature. It states fundamentals in simple language, and is very handily arranged for ready reference. It is broad in its scope, yet not technical. It embodies the results of extensive practical experience, and is recognized as a valuable contribution to the educational movement now in vogue.

We have striven, in every way, to conserve life and property. Special study is made of particular types of boilers and other steam-using apparatus and new designs and methods of construction are carefully reviewed and discussed.

MASSACHUSETTS EMPLOYEES INSURANCE ASSOCIATION.

The accident-prevention service of the association during the past year has continued along the same general lines that have been described in detail in the two preceding annual reports of the Industrial Accident Board. The response of the association members to this safety work has been very satisfactory, and at present date over 500 subscribers have completed all recommendations that have been submitted to them, while the other members are approaching completion.

It is appreciated by these subscribers that the work of mechanically guarding equipment in their mills and factories not only reduces the number of accidents to employees, thereby improving the operating efficiency, but it also puts their plants into a condition that will prove acceptable to the Massachusetts Joint Board when it introduces the proposed State standards of industrial safeguarding. There will be, in addition, a financial return to employers from this safety work through a favorable individual rating of their plants under the new method of compensation insurance underwriting that is to be established in Massachusetts.

Several activities of the association that were not mentioned in previous reports may be of interest.

Convenient card records of the accidents of each subscriber are maintained so that the safety engineers are able, when making a reinspection, to take up with the employer all of his accident experience in detail. Particularly in the larger plants, an analysis of the accidents often brings out features in regard to frequency or type of injury that have not been thoroughly realized by the employer, and his active co-operation can thereby be obtained in applying the appropriate preventive measures.

The education of employees along safety lines is encouraged by accident bulletins which the association itself designs and publishes once a month for free distribution to all subscribers, in any quantities that each may desire. This service is a continuous one, and is thoroughly appreciated by the members and by their employees.

Many subscribers to the association have now established safety organizations, and are obtaining practical and substantial results therefrom. It thus becomes practicable to obtain relatively frequent safety inspections of the employers' plants, with the result that not only are useful forms of safeguarding often suggested, but the general conditions of the whole plant with respect to "housekeeping" and personal carefulness of individual employees are maintained at a high standard. A few typical reports that have been received from such committees are shown below.

From a Textile Machinery Manufacturer.

MARCH 15, 1915.

Massachusetts Employees Insurance Association, Boston, Mass.

GENTLEMEN: — At a meeting of the shop safety committee called by the superintendent, Mr. Smith and Mr. Jones being present, an inspection of the shop was made with the following result: —

1. Found 1 emery wheel guard off in Department D, and 2 off in Department B.
2. Also found boards with protruding nails lying around the stock room.

Since the last meeting the three stations for 5 horse-power portable motors have been locked.

The following is copy of a letter sent to all foremen:—

DEAR SIR:— The shop safety committee are repeatedly reporting that they are finding guards off from emery wheels, and that loose boards with nails in them are allowed to lie around the floor.

We must see that measures are taken against this, as there is probably more danger from these two particular things than almost any other hazard that we have around our plant.

Kindly see that the safety committee can hand in a clean report in the future so far as these conditions are concerned.

Very truly yours,

From a Boot and Shoe Manufacturer.

MAY 11, 1915.

Massachusetts Employees Insurance Association, Boston, Mass.

GENTLEMEN:— We are sending you our latest report of our safety committee. You will notice that hazards have been greatly reduced. We are trying our best to keep everything up to the highest point of efficiency. We hope our next report will be still better.

Yours very truly,

Safety Committee Report.

Cutting Room.— 1. Twine around shafting, southwest corner.

Lasting Room.— 1. Fan around shaft over No. 21 lasting machine should be removed.

2. Live steam pipe needs covering.

3. Fire door hinge broken.

4. Bad floor near elevator.

Lower Gang Room.— 1. Hats hung on hanger over beeling machine.

2. Slugging machine pulleys all lagged up with belting. Danger of working loose.

3. Loose hangers over heel scourer and rubber heel scourer.

4. Too many boxes around No. 1 leveller (8 wooden boxes).

Sole Leather Room.— 1. Only two or three guards around pulleys and belts on dieing out machines.

Store House.— 1. No fire hose or pails.

2. Gate broken on elevator.

Basement, No. 1 Factory.— 1. One loose hanger.

2. Alley between factory and engine room should be covered.

3. Danger of being hurt from articles thrown from windows.

Gang Room.— 1. Bad floor back of tack knockers.

From a Manufacturer of Hemp and Jute Products.

Date: Jan. 12, 1915. No.: 100. Location: Manufacturing department.

Subject: Signalling before starting motors.

The committee recommend that means be provided for giving a signal before motors are started up in manufacturing departments. This recommendation is made because in several instances known to members of the committee operatives cleaning about the pulleys of their machines have come very near being caught in the loose pulley when the power was put on in the room.

Date: March 9, 1915. No.: 118. Location:

Subject: Sliding fire doors.

The committee recommend that all sliding fire doors be inspected, and those found to be hung with the old-style hangers be changed to new style. With the old-style hangers it is possible for fire door to come off the run and fall, but with the new type of hanger there is no danger.

Date: March 31, 1915. No.: 127. Location: Dept. 21.

Subject: Pipe railing.

The committee recommend that a pipe railing be installed in front of the reel winders to prevent a person backing into a revolving reel.

Date: April 20, 1915. No.: 155. Location: Dept. 40.

Subject: Ladder guards and support.

The committee recommend that a bar be placed across the two hangers for the middle shafts at the east end of the room, this bar to serve as a guard and ladder support when necessary to oil the bearings.

Date: June 15, 1915. No..... Location:

Subject: Educational methods.

The following educational methods were brought up and discussed: —

Motion-picture entertainments.

Bulletin board services.

Teaching English to the non-English speaking operatives.

Safety mottoes in pay envelopes.

Noon-day meetings about fifteen minutes long.

Certain phases of the work were given to different members for investigation.

From a Textile Mill. — Mill No. 2.

JAN. 21, 1915.

First inspection: Dec. 8, 1914, 18 items submitted.

Second inspection: Jan. 4, 1915, 23 items submitted.

The status of this work to-day is as follows: —

Items 1, 4, 6, 18, 19 are completed and several others are under way.

Committee: Chairman JOHN SMITH, *Master Mechanic*; WILLIAM BROWN, *Machinist*, HENRY JONES, *Carpenter*.

In various parts of the State the association has been giving safety talks, sometimes in private halls for the employees of a single company, and sometimes in public halls with admission by complimentary tickets distributed among all employers of labor in the vicinity. An extensive and attractive series of lantern slides, over 350 in number, upon many different types of industrial hazard were prepared by the association for this service. Special motion pictures on safety subjects have also been used. The meetings have awakened very great interest and have been attended by large audiences, sometimes several thousand, of both employees and employers.

AMERICAN MUTUAL LIABILITY INSURANCE COMPANY.

The Bureau of Safety of the American Mutual Liability Insurance Company has greatly extended its service and activity during the past year. The force of engineers attending to the interests of the Massachusetts members of this company has been more than trebled. The men engaged in this important work are graduate engineers of technical schools of recognized standing, who have had several years' practical experience

in different lines of manufacturing. By establishing several resident engineers in the leading manufacturing centers of the Commonwealth, it is possible to give immediate attention to special requests for inspections.

By this arrangement we are also able to investigate immediately any serious accident which might require prompt attention in order that the cause of such an accident may be determined and a safety recommendation made which will prevent its recurrence. These "preventable accidents" are followed very closely at the office of the Bureau and recommendations submitted to the insured which, if complied with promptly, would prevent similar accidents from occurring.

The organization of safety committees in the industrial plants insured in this company forms an important function of the activities of the Bureau. Already many of the members of this company have shown a disposition to voluntarily organize for safety, with results which have been most gratifying. It has been found that where such committees were not created it was chiefly on account of the fact that the management of these plants did not fully appreciate the benefits to their own organization which such a safety committee might bring about. Recognizing the fact that it is of great assistance to safety committees in manufacturing plants to receive the suggestions and advice from outside, we have detailed one of our engineers, who is particularly qualified in safety committee work, to visit the several plants which are interested in this line of activity, and give safety talks to workmen's committees and foremen's committees and incidentally help them solve any particular problems which may have come to their notice.

Another feature which has been recently brought to a high state of efficiency by this Bureau is the study of special hazards. Realizing that it is impossible for any one engineer to become highly proficient in the specific hazards of all leading industries, we have found it most valuable to have each man on the staff familiarize himself with the particular hazards in some one important line of manufacture. Consequently, when information is requested on an unusual safety problem, the matter is referred to the engineer who has made a study of this particular line, instructing him to visit the plant which is asking such information and assist them in every possible way. We are gratified to note in letters from our members that this specialized service is greatly appreciated.

The cost of making alterations in order to conform to the standard requirements for safety appears to be an obstacle which cannot be disregarded. Even where there is the utmost desire to improve conditions, funds are not always available which would permit building over a plant so that ideal conditions for the employees might exist. For this reason we have added to the service of our engineering staff the review and examination of plans and specifications pertaining to new construction, alterations and installation of equipment which are contemplated by the members of this company. In this manner it is possible to offer suggestions which will permit such work to be completed at slight additional

cost, if any, and eliminate the necessity of making expensive changes after the work is finished, which might be necessary for the protection of the employees.

Representation on the safety inspection committees of the Massachusetts Rating and Inspection Bureau and the Pennsylvania Compensation Rating and Inspection Bureau, as well as membership in all recognized safety organizations, keeps our engineers informed on all important developments in the safety engineering field.

An abundance of safety literature has been distributed during the past year to members of this company. A poster giving instructions in first aid to the injured appears to be more in demand than any publication we have as yet distributed. Requests for over 10,000 of these posters have already been received, and we should be pleased to furnish a copy to any one making application.

CONTRACTORS MUTUAL LIABILITY INSURANCE COMPANY.

The inspection department of the Contractors Mutual Liability Insurance Company has deviated but little from the plan of operation as outlined in the second annual report, previous experience having proven that personal solicitation by the inspector is much better than a long list of recommendations arbitrarily submitted by mail.

The practice has been established that each inspector shall discuss his recommendations with a representative of the assured whenever possible, thereby eliminating many opportunities for misunderstandings and misconceptions. An appeal to the judgment of the superintendent or foreman as to the practicability of the suggestions is a big factor in creating confidence in the inspector and his work. Although the recommendations are subsequently submitted to the assured by mail, this is more a matter of record, and the ultimate result is a greatly reduced correspondence.

The company has aspired to develop its inspection department as one which may be of service to policyholders in general engineering matters, and the number of those who have availed themselves of the opportunity indicates that the plan is meeting with success.

In dealing with employees as a body, it is often difficult to replace unsafe practices with modern safety methods without creating a certain amount of dissatisfaction. Where working agreements exist, these agreements cannot be amended without a great deal of trouble, and this company has accomplished practically the same end by informal addresses to representative bodies of employees. One instance of this was in reference to a general rule for the use of goggles in the stone-cutting trade. The branch organization would take no official action, but as individuals they met one of our inspectors who presented his case to them in a two-hour conference. The result was that about 85 per cent. of the employees adopted the inspector's suggestions, with an immediate and very material reduction in the number of eye accidents.

One inspector, working outside of the metropolitan district, has been supplied with a motorcycle, and the result of 116 per cent. more inspections has greatly exceeded our expectations.

The plane of "safety" as established by the company is gradually being raised, and risks which do not and will not meet the established standards are dismissed.

Another condition to which more and more attention is being paid is the general morale of the employees. Employees who are advanced in years are many times a menace to themselves and to their coworkers. Easier and safer work is found for them where possible, the safety of the risk elevated and a humane act performed for the employee.

The company has noted with satisfaction the increased receptiveness of both the employer and the employee for suggestions from safety inspectors. Both are realizing that "safety pays."

Following is a synopsis of the recommendations as indicated by the files of the inspection department:—

Synopsis of Recommendations, Inspection Department.

Relative to the use, handling and storage of explosives,	16
Guarding driving belts and pulleys,	191
Relative to conditions of derricks and cranes,	70
Relative to dust conditions,	7
Relative to the dumping of refuse material,	4
Improper elevator conditions,	170
Guarding, mounting, etc., of abrasive grinding wheels,	93
Relative to conditions of equipment, burred tools, etc.,	20
First-aid conditions,	11
Construction and guarding of footways, etc.,	139
Guarding gears,	177
Relative to the use of glasses and goggles,	53
Various instructions to employees,	29
Projecting keys,	26
Molder guards,	2
Relative to ladder conditions,	130
Guarding moving parts of machinery,	90
Relative to projecting nails,	83
Guarding floor openings, stair and elevator wells, etc.,	137
Planer and jointer guards,	82
Public hazard,	17
Conditions of shoring,	3
Shipper bars,	6
Guarding bench and band saws,	182
Conditions of shafting, including set screws in shafting and machinery,	198
Improper conditions of stairs,	146
Construction and guarding of stagings,	164
Relative to the storage of stock and equipment,	34
Relative to the posting of notices, etc.,	457
Relative to the use of screens,	7
Industrial track conditions,	6
Conditions of wagons and harnesses,	8
Miscellaneous recommendations,	22

Total, 2,780

MASSACHUSETTS BONDING AND INSURANCE COMPANY.

This company maintains an inspection department, with safety engineers and inspectors throughout the country, whose duties it is to inspect all risks carried by the company and recommend safeguards and proper working conditions. For the New England territory we have an inspection department which is occupied with New England risks alone. During the past year we have been particularly successful in having safeguards adopted, and in putting into effect rules and conditions which have unquestionably had a most favorable effect in the prevention of accidents. Particularly have we succeeded in overcoming any reluctance which may have been encountered in previous years on the part of employers to adopt safeguards on account of the expense to them, and we consider it a particularly worth-while accomplishment to have convinced employers that it is shortsighted policy to show a lack of interest in accident-prevention work merely because they have insurance which pays the immediate costs of accidents. We have been pleased to note that employers with whom we do business are growing to recognize that, wholly aside from the humanitarian viewpoint, it is decidedly to their interest in the way of efficient operation to maintain, so far as possible, their skilled working forces unimpaired.

We have had splendid co-operation from our assured in carrying out recommendations among manufacturing risks and in other plants and buildings where compensation policies are carried. Our general experience shows that accidents caused by machinery form a very small percentage of the total number of injuries reported. This experience corroborates the fact that we have endeavored to maintain a high standard of machinery protection throughout all of our plants, but it also shows that by far a larger percentage of accidents is caused by personal carelessness, especially in the handling of materials, and shows the need of educational work among the employees.

It is our policy to inspect each manufacturing risk at least once a year, and in many cases we make more frequent inspections as the conditions warrant. We follow up our recommendations very closely at regular intervals until they have been complied with. We have made something like 4,000 inspections among our manufacturing and other compensation risks in Massachusetts, and the number of recommendations for manufacturing risks averages about 5 each.

While we naturally depend mainly on our safety engineers and inspectors for accident-prevention work, we have nevertheless endeavored, with some little success, to enlist also the interest of our agents. We have found that the agent who secures the business, and is usually close to the employer, can perform favorable service in securing the adoption of safeguards or compliances with our recommendations.

Throughout the year we have published in the company's house organ, the "Co-ordinator," articles on accident prevention, with numerous cuts illustrating safeguards and text describing them. The agents have evinced an interest in this feature, and the same matter, both cuts and text, has

also been printed in pamphlet form and distributed, through our agents and inspectors, to employers throughout the country.

Our plants, as a rule, do not have a large number of employees, so that in many cases it has been impracticable to establish workmen's safety committees. We have, however, a half dozen of these established in one form or another among our risks, one of these being a regularly organized committee established in accordance with the suggestions offered in Bulletin No. 9, issued by the Industrial Accident Board. In this particular case we were greatly assisted by the Accident Board, and we feel that the best work in this direction can be done by the Board, as such suggestions have behind them an official suasion.

With the report of the Massachusetts Bonding and Insurance Company there were samples of safety literature which the company has distributed during the year.

EMPLOYERS INDEMNITY CORPORATION.

The extent of the business of the Employers Indemnity Corporation in Massachusetts at present is with a number of laundries, a list of which has been furnished our Inspection Bureau, and we have done much trying to encourage laundry owners to establish safety committees in their plants. We inspect all our risks, and advise our insurers as to what parts of their plants need protection and how such protection should be applied.

In connection with our activities in the safety field we have more than thirty stereopticon slides, showing the best methods of safeguarding laundry machinery, which we have used at gatherings of laundry owners in connection with addresses on the subject of accident prevention. We have used our best endeavors with a number of the laundry machinery manufacturers to get them to safeguard the machines before turning them out of their shops, and we have succeeded along these lines to a very appreciable extent. They are now turning out flat-work ironers well safeguarded; all extractors have covers of some kind on when they leave the shop, but the kind that we recommend and which the State of Wisconsin requires is what is known as the automatic cover; i.e., a cover which must be closed before the machine can be started, and which cannot be opened so long as it is in motion. They are also now putting a very good safeguard on all body ironers, and many other things along these lines the machinery companies have taken up either of their own volition or at our suggestion.

SECURITY MUTUAL CASUALTY COMPANY.

During the past year mechanical safeguarding has been carried on vigorously, but special attention has been given to the educational features of accident-prevention work at the plants of employers insured by the Security Mutual Casualty Company. Our inspectors have been co-

operating closely with our assureds, and instructing them as to the best way to form safety committees to secure the most satisfactory results.

The majority of our assureds are in the packing industry, or businesses closely allied thereto. As over one-third of the accidents occurring to employees in such industries result from handling knives, we have directed special attention to preventing that type of accident, and for this purpose have gotten up forms of guards for knives which can be used without regard to the character of work being done. This has been a difficult proposition, but the results obtained in reducing the number of knife accidents have warranted this special effort.

Guarding knives for preventing accidents has been generally considered quite a novelty, but our experience indicates that practical and satisfactory results follow from it.

Our inspectors have kept in close touch with the various safety committees, which has done much to stimulate the activities and results accomplished through such committees.

Our bulletin board service has been expanded with, we think, good results.

During the last year our inspectors have made a little over 5,700 recommendations for improving liability hazards in addition to the 15,455 previously made. These recommendations have been quite generally carried out.

ZURICH GENERAL ACCIDENT AND LIABILITY INSURANCE COMPANY, LTD.

The Zurich maintains for the benefit of its assureds a corps of carefully selected trained inspectors, each of whom is selected on account of qualifications which peculiarly fit him for the work to which he is assigned. The inspection work is divided into several distinct classes: elevators, general liability, factory, contractors, rating inspections. During the year of 1915 the Zurich inspectors made 3,000 inspections in the New England territory, and as a result of such inspections 1,100 recommendations were submitted for the improvement of conditions and for the prevention of accidents. Of this number of inspections 2,500 were made in Massachusetts and 900 recommendations were submitted. It is gratifying to know that 98 per cent. of all recommendations submitted were complied with by the assureds, who seem to realize more and more that efforts to reduce the number of industrial accidents are undertaken by the companies as much in the assureds' interest as in the interest of the companies. Every assistance is given the assureds in their efforts to prevent accidents.

As a usual thing the inspectors of a casualty company have permission to visit plants and to discover physical defects which must be reported to the office to which the inspector is attached, and in turn the matter is taken up by the office with the agent, by the agent with the broker, and by the broker with the assureds.

It is the plan of the Zurich to train its inspectors so as to make them real experts in their line, with the fullest possible grasp of the requirements

of the company, so as to permit them while at the plant to discuss with some person in authority the actual carrying out of the recommendations, and, in case of need, to demonstrate how this can be done.

In this age, when economy is one of the watchwords of the casualty business, it is essential that best results shall be obtained in the inspection department at the least possible cost, and this can only be done by the employment of competent men who can decide right on the spot just exactly what is required to be done.

If it should happen that some problem out of the ordinary should arise, the Zurich inspectors and engineers have instructions to furnish details of same to the home office, where the men in charge of the department are willing to undertake to submit plans for the solving of such problem.

The Zurich, contrary to precedent, has commenced to instruct its inspectors as to the rating of risks, as it considers that it is an important part of the education of an inspector that he should know something about the relative accident cost in different industries.

It is our opinion that eventually the inspection department should become the rate-making body of a casualty company, as no one should be better qualified to make rates than the man who has actually seen in operation the plant to be underwritten.

UNITED STATES FIDELITY AND GUARANTY COMPANY.

As a result of the accident-prevention work carried on by the United States Fidelity and Guaranty Company in Massachusetts during the past year there have been 11 permanent safety committees organized, and, in addition, 16 manufacturers have expressed their willingness and desire to form committees, and with our co-operation will have these committees in operation as soon as possible.

Directly after a meeting of the insurance inspectors which was held at the Industrial Accident Board last year we circularized each of our assureds, requesting that they consider the organization of shop committees, and then had our inspectors visit each assured and endeavor to interest them further in this organization. Our inspectors are instructed to point out to the employers the vital necessity of forming safety committees, by explaining the fact that only part of the industrial accidents can be prevented by mechanical guards, and that a large percentage are due to the carelessness of the workmen. When our inspectors inspect a manufacturing risk they point out to the assured the conditions which experience has shown to be hazardous as regards construction, equipment and operation, — in fact, everything which deals either directly or indirectly with the safety and welfare of the employees. The inspector then impresses upon the minds of the employers the importance of selecting some one person to give part or all of his time, depending upon the size of the plant, to the work of looking after the details of safety.

A complete report of each plant is sent by the inspector to the home office, giving, in addition to the condition of the plant at the time of the

inspection, what recommendations he thinks are necessary for the improvement of the plant. These recommendations are carefully scrutinized at the home office, and a written report sent to the assured asking that the necessary repairs be made, and after a reasonable length of time, if no reply has been received, another letter is sent asking if the recommendations have been complied with, and thus followed up until a definite answer is received.

This company's usual practice is to inspect each factory once a year, and as often thereafter as occasion may demand, in order to assist the employers as much as possible, and also to see that the recommendations are carried out correctly. The number of inspections on the contracting risks carried by this company depends entirely upon the size of the operation. When making these contracting inspections every detail of construction is looked into both as to the equipment and the general method of construction, and although it is sometimes very difficult to impress upon the contractors the importance of the recommendations, nevertheless, we feel that the moral effect alone of these inspections is of material benefit in reducing the number of accidents.

THE NEW ENGLAND EQUITABLE INSURANCE COMPANY.

The New England Equitable Insurance Company, in keeping with its regular practice, has continued and increased its activities in the interest of safety during the past year. The location of the home office in the city of Boston has afforded excellent opportunities to study and promote this work in the State of Massachusetts. The working force of the inspection department has been enlarged, and it has been our endeavor to employ only those whose particular mechanical training, experience and sound judgment have made them especially fitted for the important work with which they are charged.

It has always been our firm belief that mechanical contrivances and safeguards invariably lose their real value where there is an absence of a complete understanding on the part of employers and employees alike in their labors for the prevention of accidents. Acting upon this conclusion we have long since realized that the best method to employ in the accomplishment of the desired purpose is by means of education. Through its membership in the various safety societies, and subscription to many of the technical and safety publications, the inspection department has kept well informed in all matters pertaining to accident prevention and the progress being made beyond the borders of our own State in the accomplishment of this work. This information is digested and transmitted to our field men in a systematic manner, and from them to our clients.

Inspections are made of all manufacturing plants insured at the time the policy is written. An effort is always made to have some one in authority accompany our inspector through the factory in order that all criticisms may be discussed and the remedy explained. Photographs are sometimes taken, and these are used either in the way of general information or made

into slides to be used with our stereopticon lantern in connection with safety talks which are sometimes given to employees at these factories. When the inspection report is received at the home office it is given careful study, and a letter containing recommendations for improvements is immediately sent to the assured. If, within a reasonable length of time, our requests have not been satisfactorily complied with, the factory is revisited, and recommendations about which some question has arisen are further discussed and explained to the entire satisfaction of all concerned. This process is continued until the desired results are obtained. Where experience reveals that certain accidents are especially common in a particular factory, a special study is made of the individual case, and extra efforts are exerted in order that the particular accident in question may be eventually eliminated.

Realizing that the best results can be obtained only through a state of perfect harmony and co-operation between our clients and ourselves, it has been our aim to present the safety problem from both an economic and humanitarian standpoint, and we are very glad to report that in this manner we have experienced comparatively little real difficulty in the accomplishment of desired reforms and improvements.

With this report the New England Equitable Insurance Company enclosed samples of posters containing safety slogans; also other safety literature.

CASUALTY COMPANY OF AMERICA.

The plan adopted by the Casualty Company of America for the handling of its accident-prevention and safety work consists in the sending of expert safety engineers to the places which are covered under its various policies. These inspectors are primarily practical men who are well equipped, through experience in their special fields, to handle matters from the common-sense standpoint.

In making a thorough survey of a risk they first take up the matters of inspection and recommendations with some one in authority, thus enabling the insuring company to appreciate the importance of the recommendations which are subsequently received in letter form. Where conditions warrant, recommendations covering the formation of welfare campaigns and special safety work to be performed by foremen, committees and safety inspectors are recommended. The company maintains a safety department, which is at all times prepared to furnish the assureds with technical information as to safeguards, methods of safely handling the material, and as to where special forms of machinery may be purchased.

The elevators are inspected and reports made on them at quarterly periods, reinspections being made to ascertain the fact that the recommendations have been complied with. Competent elevator men test the safeties, speed governors, cables and other parts of the elevator mechanism which are of vital importance to the safe operation of the installation. In

connection with the inspection work, this company in many cases makes special investigations to determine the causes of various industrial accidents, and recommends safeguards or safe practices which will eliminate or reduce the probability of the recurrence of similar accidents.

In general, it might be said that the Casualty Company of America believes in the improvement of conditions as to safety in the various industries, both from the humane and casualty insurance standpoints.

MARYLAND CASUALTY COMPANY.

While the Maryland Casualty Company has always been interested in accident-prevention work, we did not enter into an accident-prevention campaign until about a year ago, when our accident-prevention division was organized. To give you a short story of just what this division is doing we will outline as briefly as possible our work. To begin with, all reports of compensation cases and many reports of liability cases pass through this division. They are scrutinized very closely, and if there is any possibility of the accident having been prevented by a safeguard or some other means, we take the matter up with our assured and endeavor to interest him in safeguarding or doing what is necessary.

Secondly, we have what we call "details of a safety-first plan," and this plan is submitted to all of our assureds who are interested in adopting a safety organization. To the employees of the assureds who adopt this plan of ours we offer for safety suggestions a pair of gold cuff buttons and a gold lapel button. These buttons are also offered to any employee who saves a fellow employee from actual injury, or who, by presence of mind in event of an accident, saves an injured employee from further serious injury. By offering these rewards to the employees we believe that it will help to stimulate an interest in accident prevention. This plan of ours has worked out favorably in a good many of our assureds' factories.

To all of our assureds, no matter whether they adopt the safety plan or not, we furnish all safety literature, signs, bulletins, buttons, etc., that they have use for. Since we have made this offer to our assureds we have distributed a large quantity of safety literature, signs and bulletins. We have also started a bulletin service for the benefit of our assureds. We send to all of our assureds that are on our mailing list one set of bulletins, composing four bulletins every month. These bulletins are gotten up in most cases to attract the attention of the employees, and are, therefore, a part of our campaign to educate the employee into safety methods. We are inclined to believe that our bulletin service is the most important part of our work.

Photographs of safety devices and samples of safety bulletins were furnished by the Maryland Casualty Company with this report.

ROYAL INDEMNITY COMPANY.

The factory and mill risks of the Royal Indemnity Company are inspected twice a year.

Our inspectors are continually endeavoring to reduce accidents, and we have the various plants well protected with regard to safety devices. Throughout the country our inspection records show that during the year 1914 the following number of inspections were made: —

Steam boilers,	14,357
Flywheels,	2,273
Elevators,	8,833
Factories and workshops,	18,758

Defects found by means of these inspections were distributed to the various classes, as follows: —

	Ordinary.	Dangerous.
Boilers,	25,315	2,985
Flywheels,	234	119
Elevators,	6,156	3,944
Factories and workshops,	26,403	12,956
	57,998	20,004

The total number of defects revealed were 78,002.

We are glad to state that our recommendations have been well received by our assureds, and in nearly all instances accepted and carried out with reasonable dispatch. There is every reason to believe that by our efforts a large number of preventable accidents, involving personal injuries, have been avoided.

We are taking an active part in the work of the engineering department of the Workmen's Compensation Service Bureau in issuing books on general safety standards, covering the essential features of general equipment in manufacturing establishments. From time to time, as new ideas suggest themselves, additional volumes will be published in order that the manufacturers may avail themselves of the latest approved devices in safety work before installing new equipment.

The Royal Indemnity Company with its report furnished samples of forms used by its safety inspectors in making weekly reports.

UNITED STATES CASUALTY COMPANY.

During the year ending Nov. 30, 1915, the inspections of the United States Casualty Company totaled in number 39,951.

The defects reported by our inspectors totaled 35,916.

Our accident-prevention staff now numbers 45 field men of practical experience.

Our accident-prevention department is very much encouraged over the co-operation of employers, and the assistance it has received during the past year from the employees in connection with its accident-prevention work and sanitary suggestions.

At our home office our museum of safety devices has been augmented by the addition of appliances marking the new era of accident-prevention work. We have devised a plan by which all serious accidents are promptly called to the attention of the accident-prevention department, so that ways and means of prevention of similar accidents may be formulated.

Our inspectors report the successful organization of safety committees of employees in large industrial plants, and a gratifying reduction in the number of accidents has resulted.

THE OCEAN ACCIDENT AND GUARANTEE CORPORATION,
LIMITED.

This company has a well-organized safety engineering department with representatives in all sections of the country, in which we are doing business. The principal duty of this department is the prevention of industrial accidents, and for that purpose we are inspecting all compensation, liability, boiler and elevator risks on our books, and offering suggestions to our assured for the safeguarding of the various operations. We have issued thousands of circular letters and pamphlets advocating accident-prevention measures in the various industries, and have also issued thousands of caution notices to our assured.

The Ocean Accident and Guarantee Corporation, Limited, sent photographs of safeguards with their report.

Fig. 1 shows the *Ætna Life Insurance Company* safety exhibit at the Panama-Pacific Exposition, San Francisco. (Courtesy of *Ætna Life Insurance Company*.)

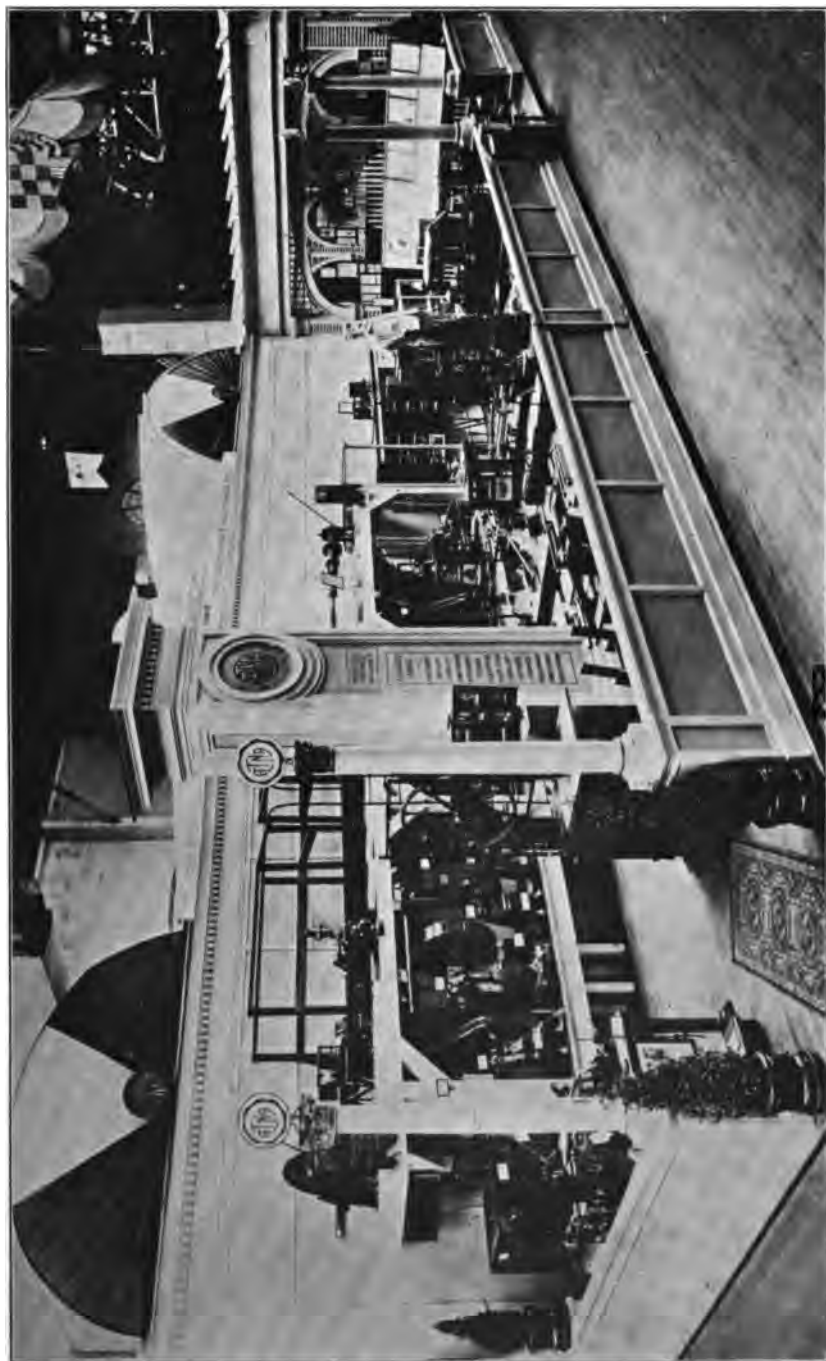


FIG. 1.

Fig. 2 shows a guard attached to a paper folding machine used for folding sheets of paper for making up blank books, school supplies, etc. The hazard attending this machine is getting the hands under the folding blade, which moves up and down in guides extending from the sides of the machine. The guard consists of a piece of plate glass set in a frame which extends across the folder table in front of the folder blade and is secured to uprights at the side of the machine; it is adjustable so that it can be moved up or down to the desired height. In operation the guard is set to a little above the height of the thickness of the paper to be folded. This does not interfere with the operations and it prevents a person putting his hands under the blade. The glass enables the machine tender to see the operations. (Courtesy of Ætna Life Insurance Company.)

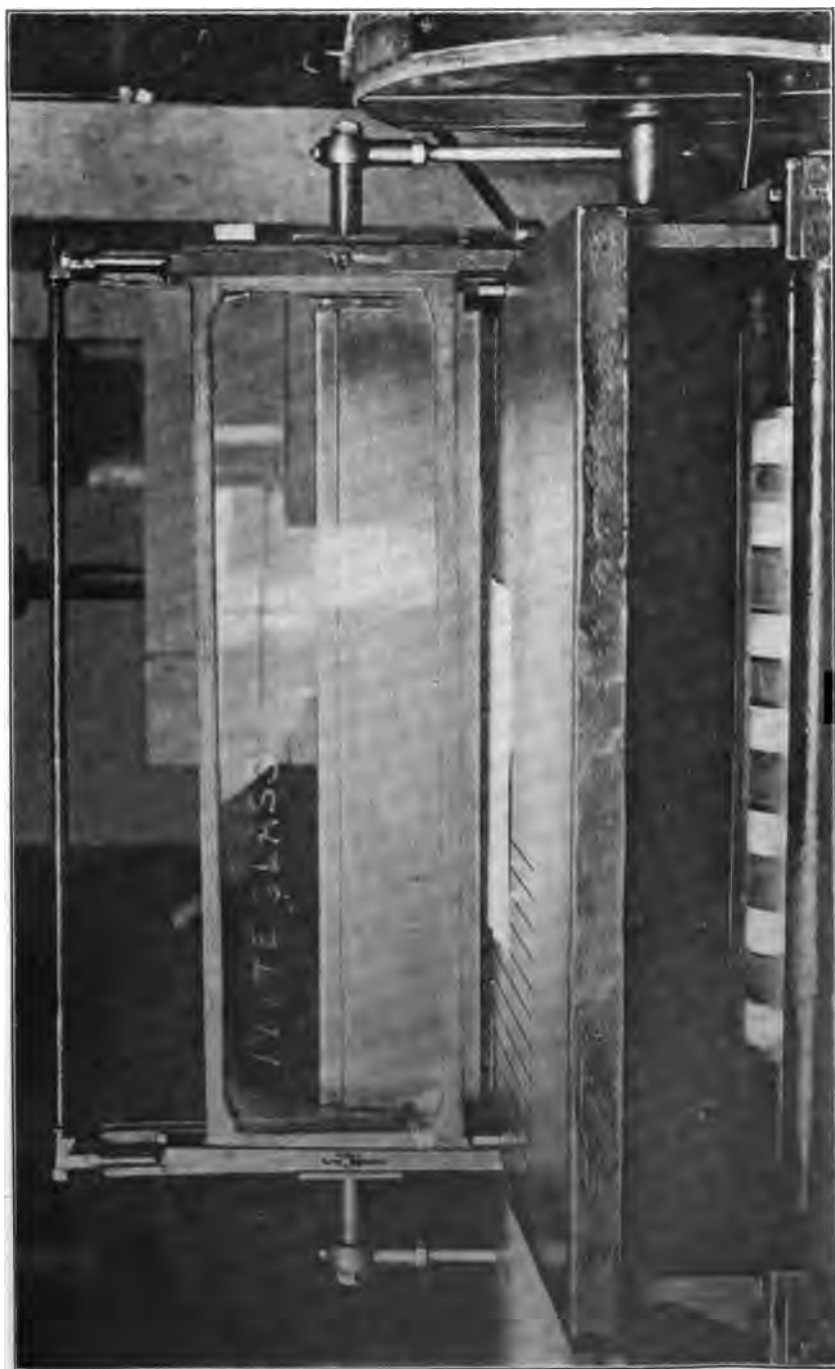


FIG. 2.

Fig. 3 shows a guard for a plater machine used for finishing sheets of paper. The sheets of paper, with sheets of linen and metal between, are made up into forms, usually about 2½ inches thick, which run between the plater rolls. In a number of cases, when an operator followed the form with his hands to adjust it or to brush off some dirt, it has happened that his hand was caught and drawn into the rolls, resulting in loss of the arm. The guard shown, which consists of wire mesh, stretched on a frame and placed in front of the rolls, prevents accidents of this kind, because the hand comes in contact with the guard before it can reach the rolls. The guard is adjustable for height to conform to the thickness of the form to be run through the rolls. Both of the above safeguards were devised by and are in use at Eaton, Crane & Pike Company's plant, Pittsfield, Mass. (Courtesy of Ætna Life Insurance Company.)

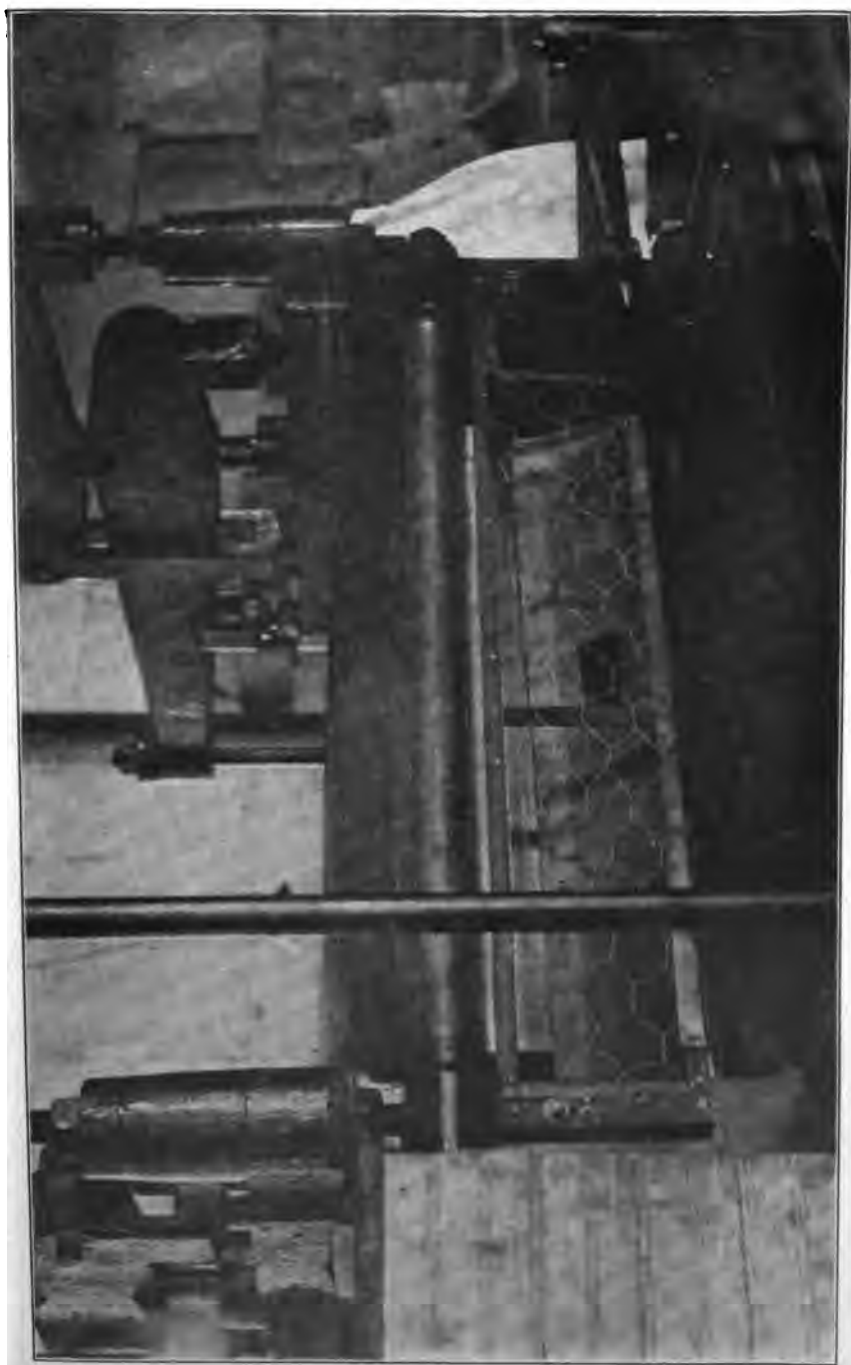


FIG. 3.

Fig. 4 shows a laundry extractor. The basket containing the washed clothes is revolved by the vertical shaft in the center of the basket and turns at great speed. The operator of this extractor reached into the basket to adjust the clothes, and his hand became entangled in the clothes and was pulled around the revolving shaft, resulting in his arm being torn off at the elbow. The hand and a portion of the arm is clearly shown twisted around the lower part of the shaft. The accident could not have occurred if the extractor had been provided with a cover so arranged that the power could not be applied until the cover was closed and fastened. (Courtesy of Aetna Life Insurance Company.)

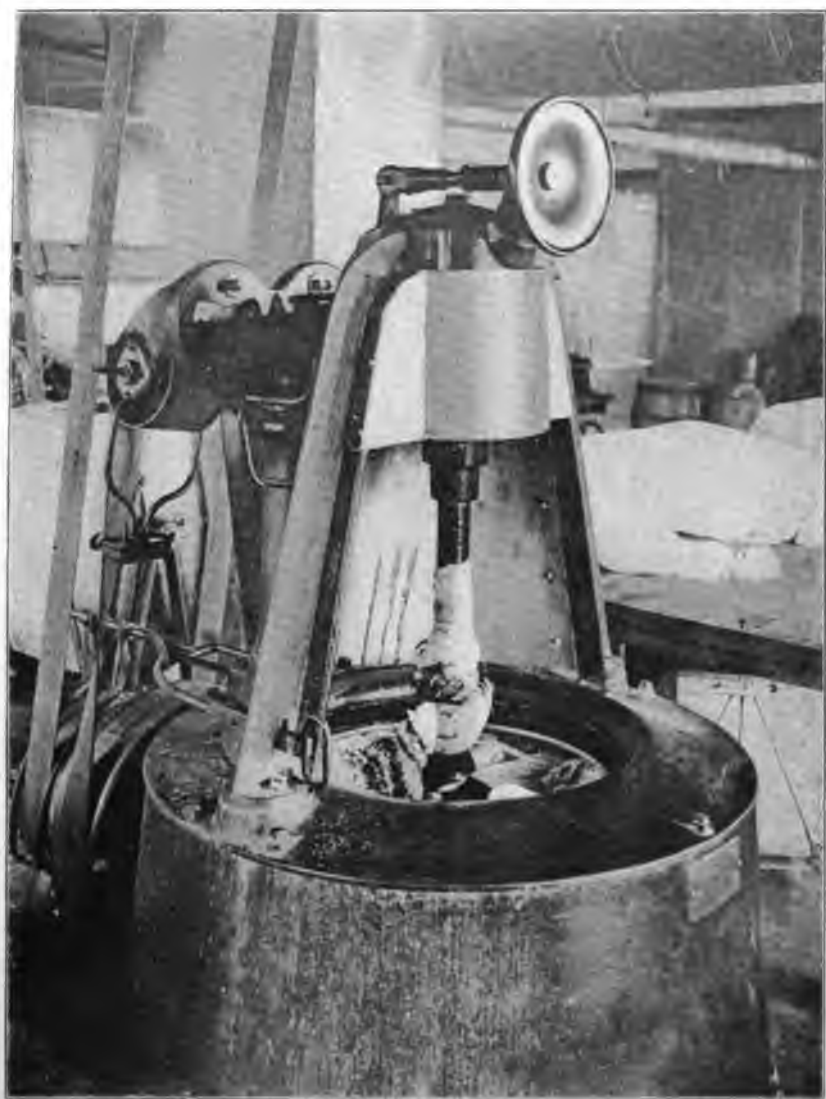


FIG. 4.

Fig. 5 shows a low horizontal shaft about 18 inches from the floor. A man sweeping the floor got his apron caught in the shaft, and in an instant he was whirled around the shaft, his body striking the floor and adjoining wall with each revolution. His injuries were fatal. The man's clothes, which were torn off, are seen wound around the shaft.

The shaft, located as it was, was undeniably dangerous. It should have been completely housed in. Had it been, the accident could not have occurred. (Courtesy of Ætna Life Insurance Company.)



FIG. 5.

Fig. 6 shows another shafting accident. A girl climbed on to the stool placed on the bench to reach for some stock. In doing so her hair got a twist on a protruding set screw in the overhead shaft, resulting in her scalp being torn off, also a part of her right and left ears. The girl's hair and scalp are shown hanging to the shaft over the stool.

This accident could be attributed to three causes, *i.e.*, the protruding set screw in the shafting, wearing the hair in rather loose form and the dangerous practice of climbing on to an unsteady stool placed on a table. (Courtesy of Ætna Life Insurance Company.)



FIG. 6.

Fig. 7 shows a cylinder printing press. The operator of this press, while feeding, unconsciously thrust his foot into the opening in front of where he was standing. The bed of the press, which moves back and forth, carried the foot, and it was caught between the bed plates and the press frame, crushing it badly.

This accident could have been prevented by filling in the opening in the press frame with substantial wire mesh or other material. (Courtesy of Ætna Life Insurance Company.)



FIG. 7.

Fig. 8 shows a wooden stairway composed of five treads leading to basement of a power house, the entrance being from the outside. A man starting to go down these stairs either made a misstep or lost his balance. The result was that he fell, striking his head on the basement floor, and was fatally injured.

A glance at the picture will show that the stairs were unsafe because, first, they were placed at too steep a pitch; second, they had no hand rail. The door opening inward at the head of the stairs created an additional hazard in this case. (Courtesy of *Ætna Life Insurance Company*.)



FIG. 8.

Fig. 9 shows the unfortunate fact that bad injuries come to men of a high degree of intelligence as well as to the young and inexperienced, many of whom do not understand the English language.

Here we have a man averaging \$35 a week losing all the fingers and the better portion of the thumb of the left hand through allowing the hand to get under the cutting knives while he was working at the shaving of a stereotype plate. This employee is receiving the maximum compensation allowed by law for a period of fifty weeks for the loss of the use of his left hand, besides weekly indemnity due to the disability. (Courtesy of Travelers Insurance Company.)

**FIG. 9.**

Fig. 10 shows the danger of cutting machines, even when they do not move at a rapid rate.

This young man lost the tips of three fingers and two thumbs by not withdrawing his hands quickly enough from an ordinary paper trimming machine in a printing establishment. Under the law he has been paid for the loss of the thumb of the left hand at the first joint and the thumb of the right hand between the first and second joints, also two-thirds of his average wages during the period of actual disability for the balance of his injuries. (Courtesy of Travelers Insurance Company.)

**FIG. 10.**

Fig. 11 shows the Jones guard for stamping presses, with the guard in the raised position. The guard consists of a protective gate carried on the end of a long lever pivoted to a bracket on the side of the press frame. Suitable linkage connects the long lever with an operating treadle and the short lever with the latch of the press clutch. The gate fastens when the treadle is pressed, and incloses the danger zone in front and on the sides before the latch is tripped. The mechanism may be so adjusted that the latch cannot be tripped until the gate is within a small fraction of an inch of the bed of the press. (Courtesy of Travelers Insurance Company.)



FIG. 11.

Fig. 12 shows the Jones guard for stamping presses with the guard lowered. The gate returns to a "safe" position before every stroke of the ram, whether such stroke is due to pressure on the clutch lever or to repeating without pressure on the clutch lever. (Courtesy of Travelers Insurance Company.)

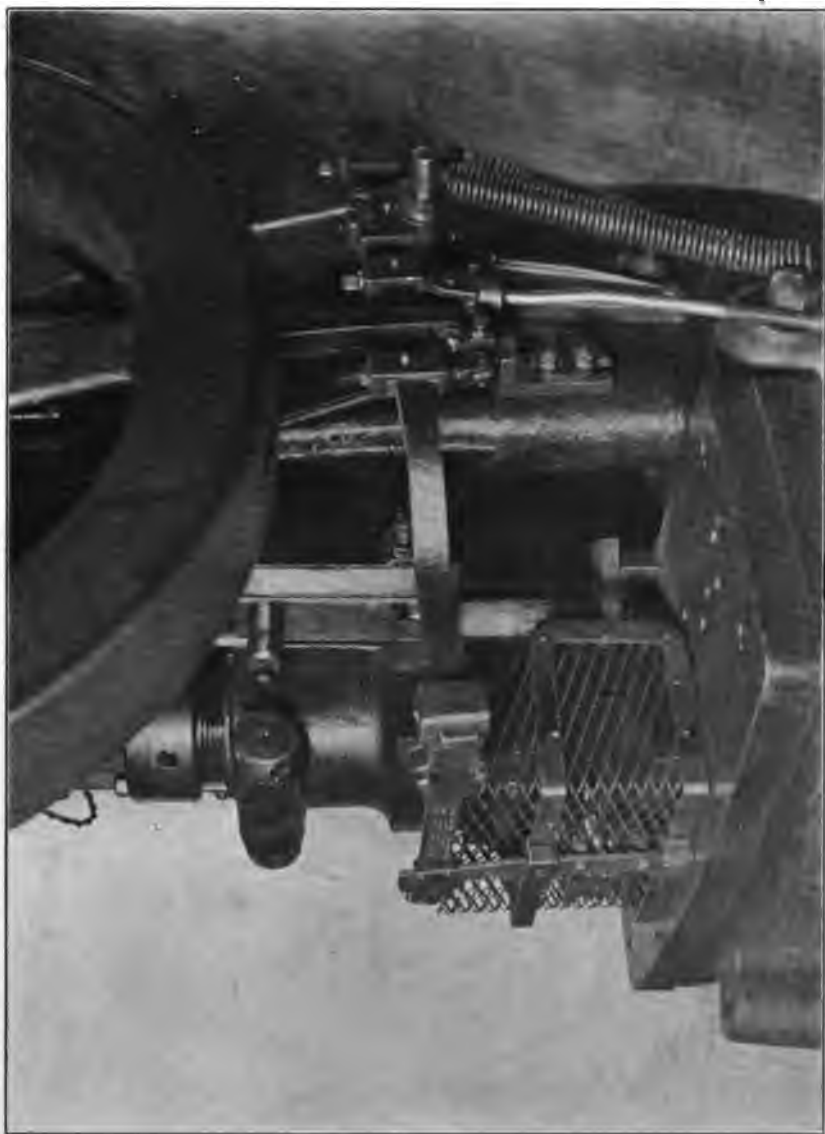


FIG. 12.

Fig. 13 shows a good drive for buffing jacks. Attention is called to the rigidity of the stand; the belt drive located within the stand; the substantial cover for the spindle belt and pulley; the starting lever at the side; the exhaust hoods and pipes for removing the dust; and the dust-proof, swivel bearings. The wheels shown are of felt. (Courtesy of Underwood Typewriter Company.)

**FIG. 13.**

Fig. 14 shows an unsafe elevator cable which was found in use, and illustrates how a potential accident was prevented by inspection. A freight elevator was found operating without car safety devices, and supported by this single hoisting cable. The elevator was used for both passengers and freight, and as the travel of the car was five stories, grave consequences were narrowly averted. The cable was immediately removed. (Courtesy of Travelers Insurance Company.)



FIG. 14.

Fig. 15 shows a dangerous sling. This chain was found in use as a sling for hoisting and conveying heavy material. Some of the links had begun to open, as shown. (Courtesy of Travelers Insurance Company.)

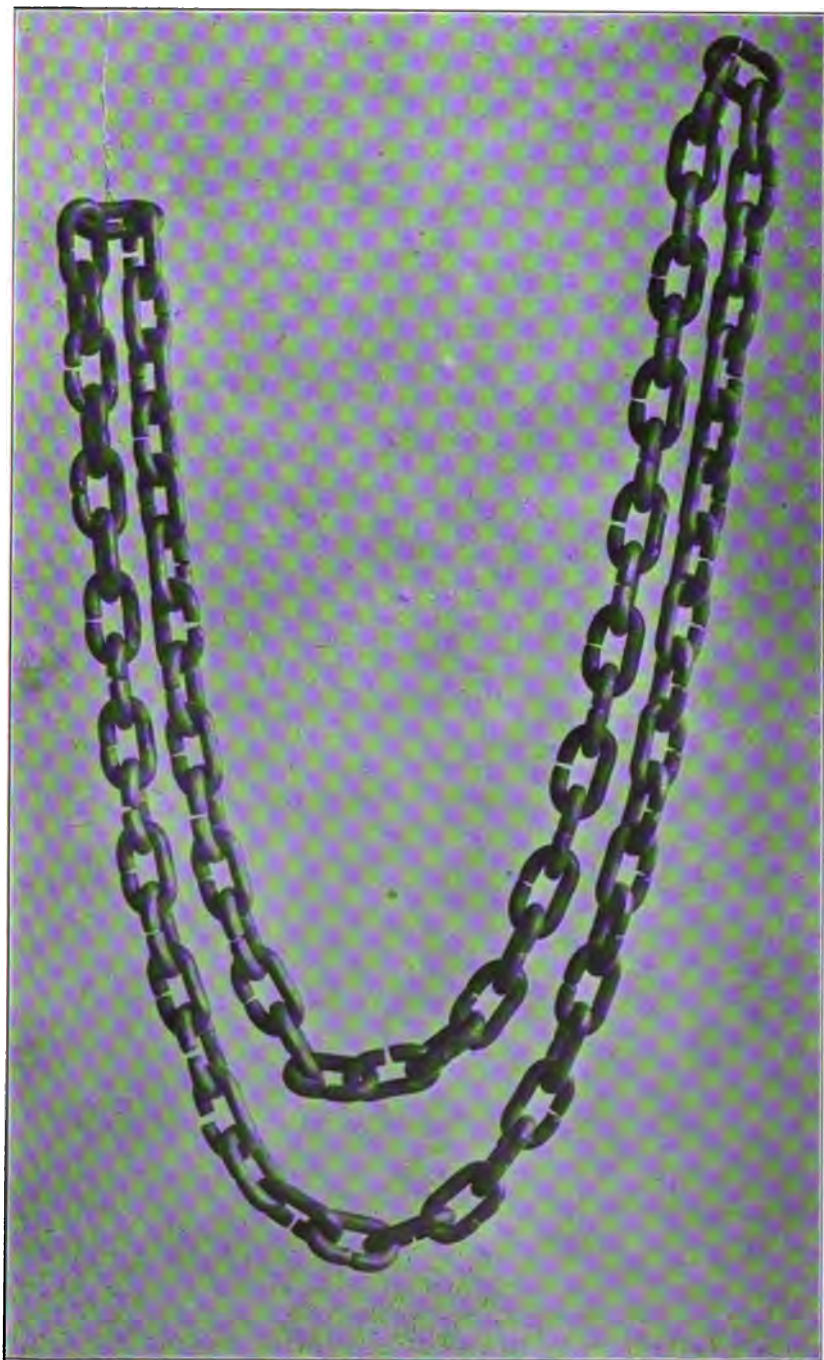


FIG. 15.

Fig. 16 shows a lap-joint crack. The inherent weakness of lap-joint construction is well illustrated by this section of plate from a horizontal tubular boiler working at 90 pounds' pressure. The discovery of the crack probably prevented a serious explosion. In cutting the plate the crack was opened up, but before removal from the boiler it was barely visible. (Courtesy of Travelers Insurance Company.)

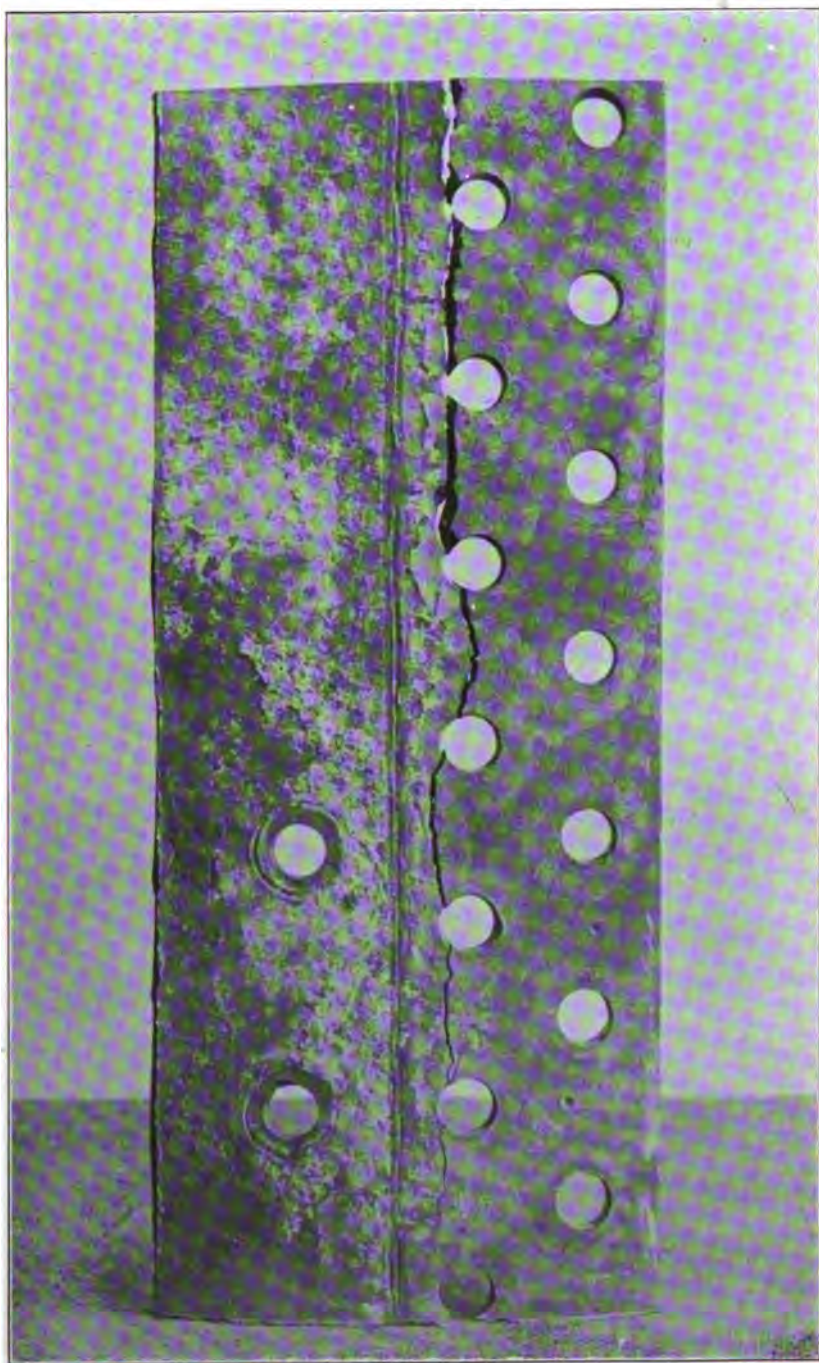


FIG. 16.

Fig. 17 shows a chain worn almost to the breaking point. This chain was used on a home-made elevator, and at the time it was found loads of 600 to 800 pounds were being lifted. It was promptly removed, but it is hard to understand, after examining the worn links, how it held together so long. (Courtesy of Travelers Insurance Company.)

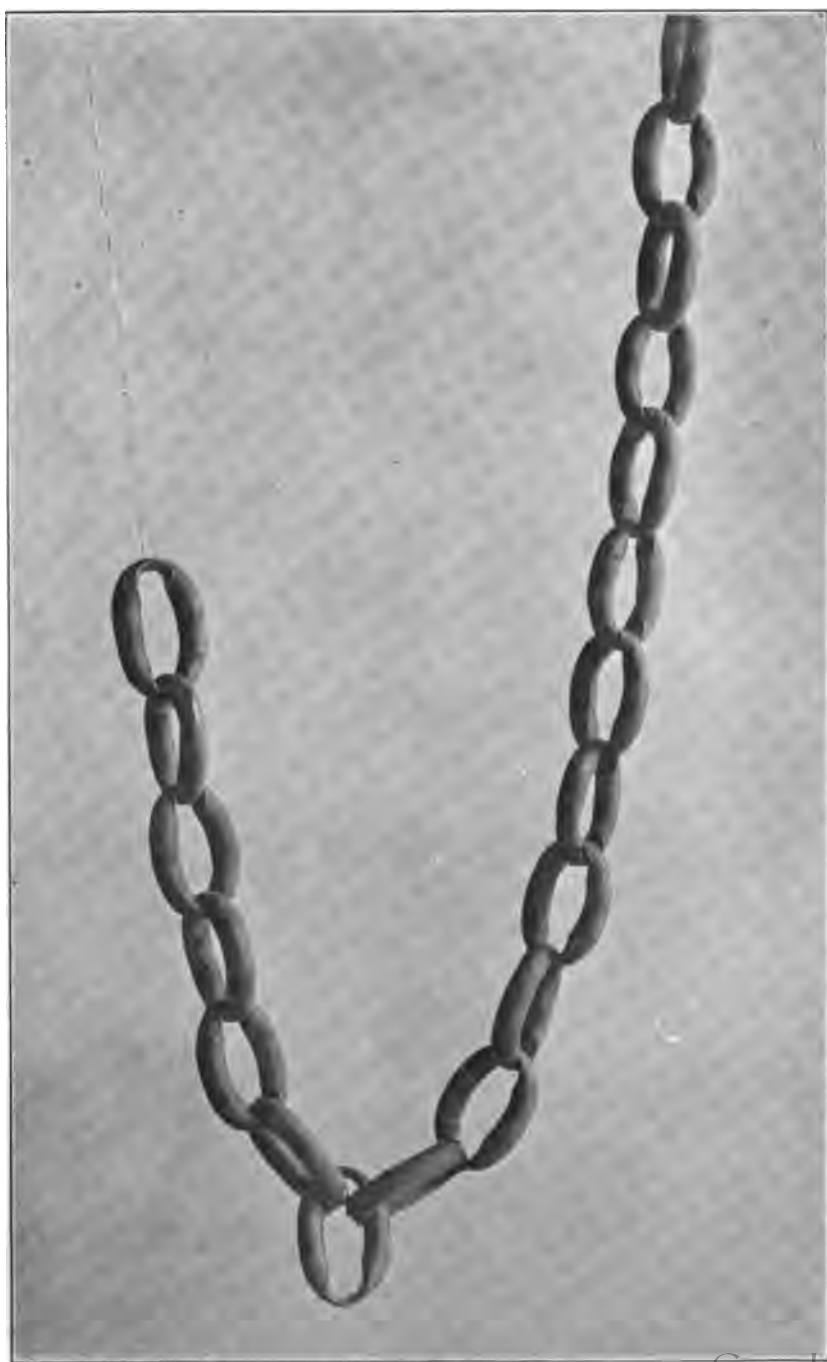
**FIG. 17.**

Fig. 18 shows an injury to a workman due to lack of effective safeguards.

While operating a drop press this experienced workman had his fingers crushed underneath the dropping plunger. As in the majority of press accidents, it was stated that the machine "repeated," but it may safely be presumed that these accidents are more often due either to the rhythmic action of the foot on the tripping lever unconsciously operating the machine, although the hand may be slightly detained in the placing of the material, or to the foot, possibly through fatigue, becoming too slow in its action in releasing the tripping lever, thus allowing the machine to take a second stroke.

Devices which will prevent or reduce the number of such cases are a positive non-repeating attachment in connection with the foot treadle or an automatic guard in front of the plunger, which will prevent the tripping of the machine while an arm or hand is in the way. For a drop press a "sweep" guard operated by the descending plunger affords some protection.

This case emphasizes the fact that knowledge of the hazard and experience in operation are not to be wholly depended upon from an accident prevention standpoint. (Courtesy of Massachusetts Employees Insurance Association.)



FIG. 18.

Fig. 19 shows a dangerous planer.

This expert machinist was caught by the reciprocating table of this planer while in the act of reaching into the bed of the machine to recover a dropped tool. The hand was badly crushed, not only necessitating amputation of the thumb at the second joint, but also rendering the index finger permanently incapable of use. A simple guard, which entirely eliminates this hazard, can be provided by covering over the space beneath the table by sheet metal or other suitable material.

This is another case of an expert workman finally being injured after safely working for years in proximity to an exposed danger point. (Courtesy of Massachusetts Employees Insurance Association.)



FIG. 19.

Fig. 20 shows how an employee in a machine shop, while cleaning a 500-volt motor, received a shock from the exposed terminals that resulted in suspension of animation. Fortunately, certain employees at the shop had been practically trained in applying resuscitation, and owing to their very prompt action respiration was soon restored. (Courtesy of Massachusetts Employees Insurance Association.)



FIG. 20.

Fig. 21 shows a portable ladder used on metal or concrete floors. The foot, or "shoe," is faced with an abrasive material, similar to the material used in grinding wheels, which will not slip on smooth metal or concrete floors. Similar feet faced with rubber can be used on polished wood floors where "spur" feet or "abrasive" feet would damage the polished surface. (Courtesy of Massachusetts Employees Insurance Association.)

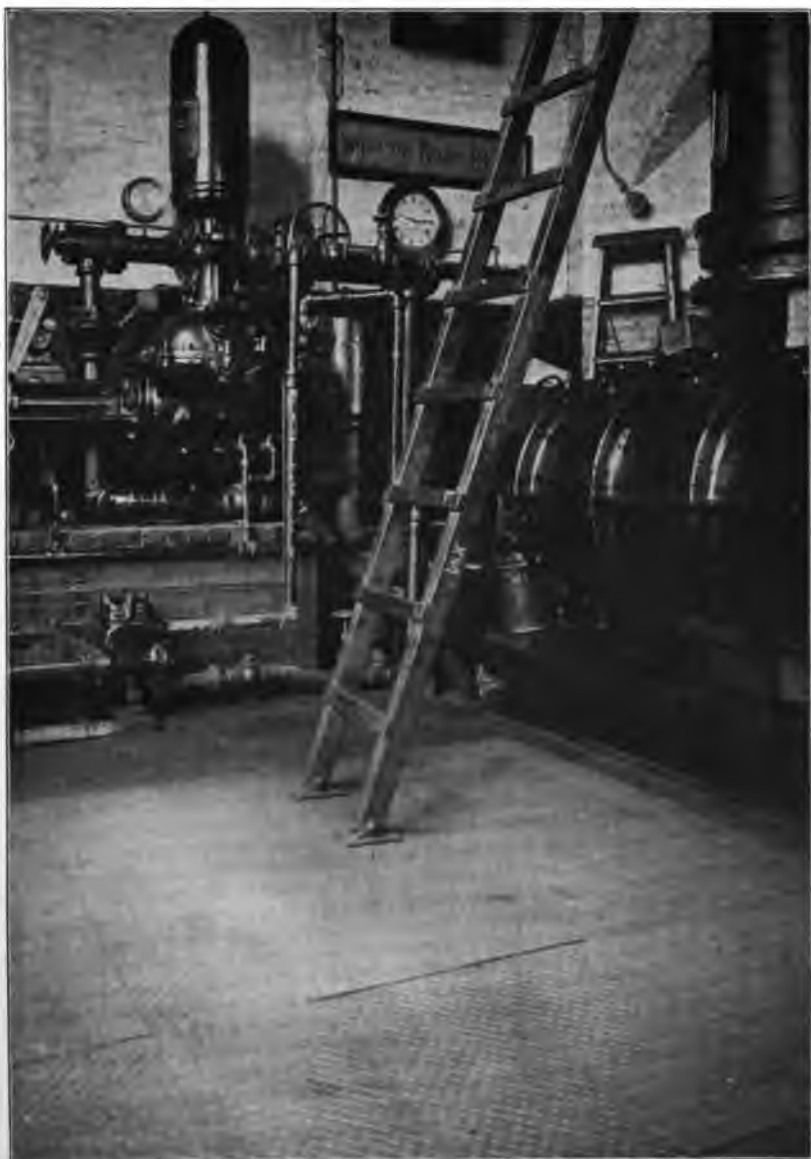


FIG. 21.

Fig. 22 shows rubber calender rolls with gears protected and automatic stopping device. (Courtesy of American Mutual Liability Insurance Company.)

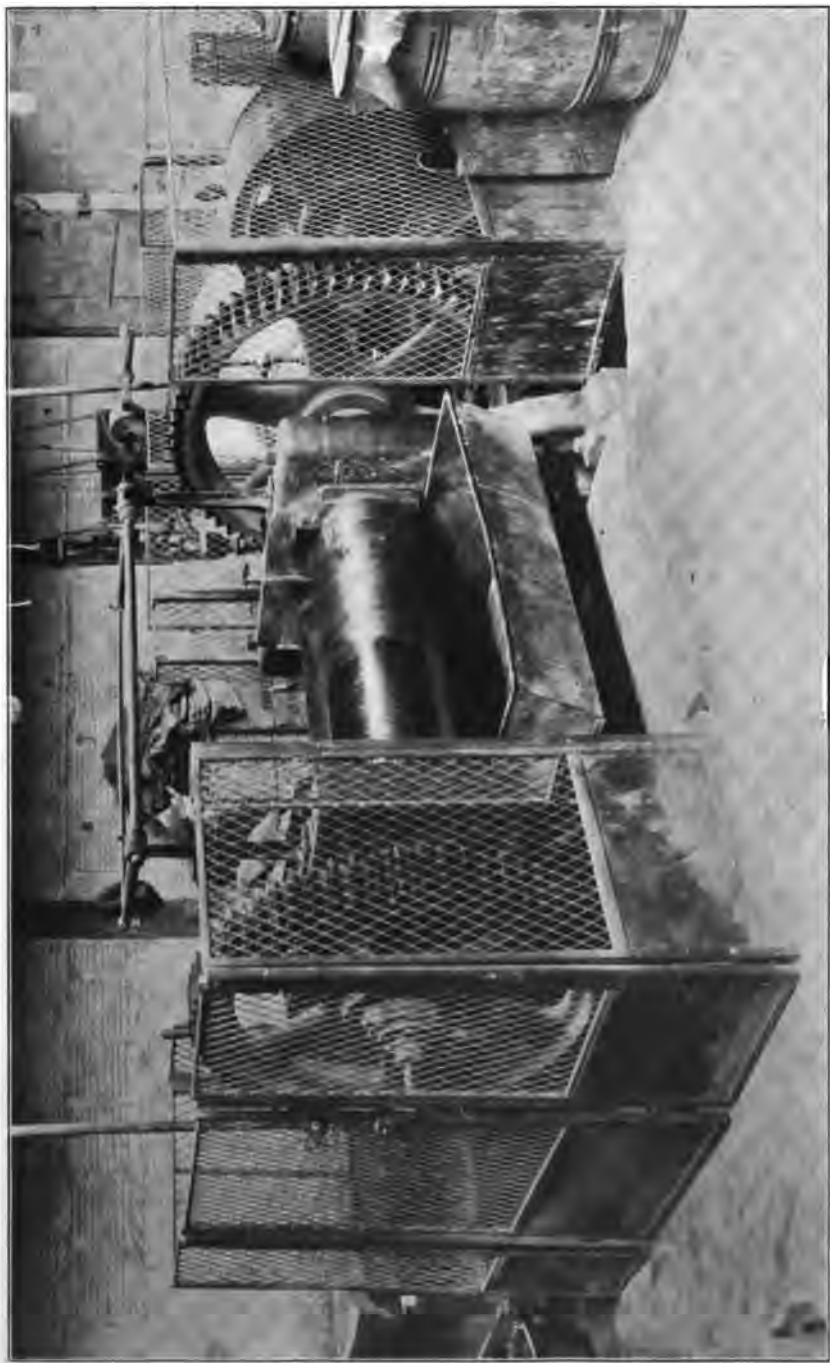


FIG. 22.

Fig. 23 shows band saw with guard open. (Courtesy of American Mutual Liability Insurance Company.)

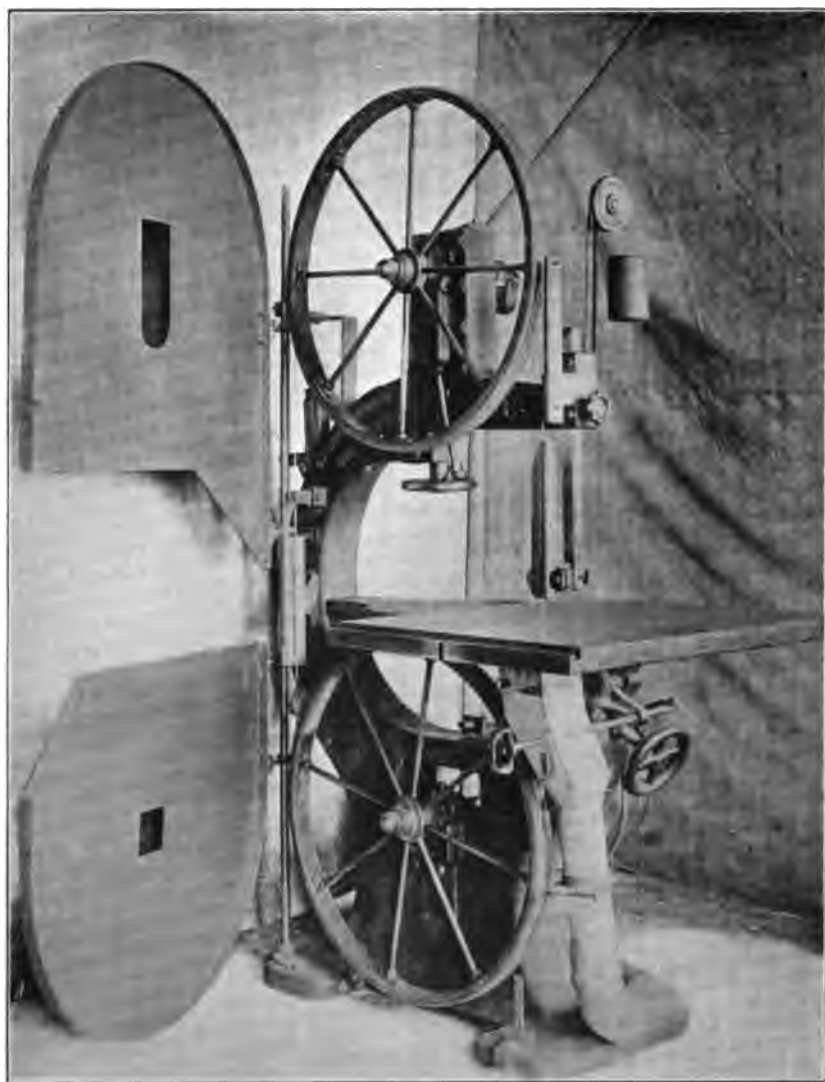


FIG. 23.

Fig. 24 shows band saw with guard closed. (Courtesy of American Mutual Liability Company.)

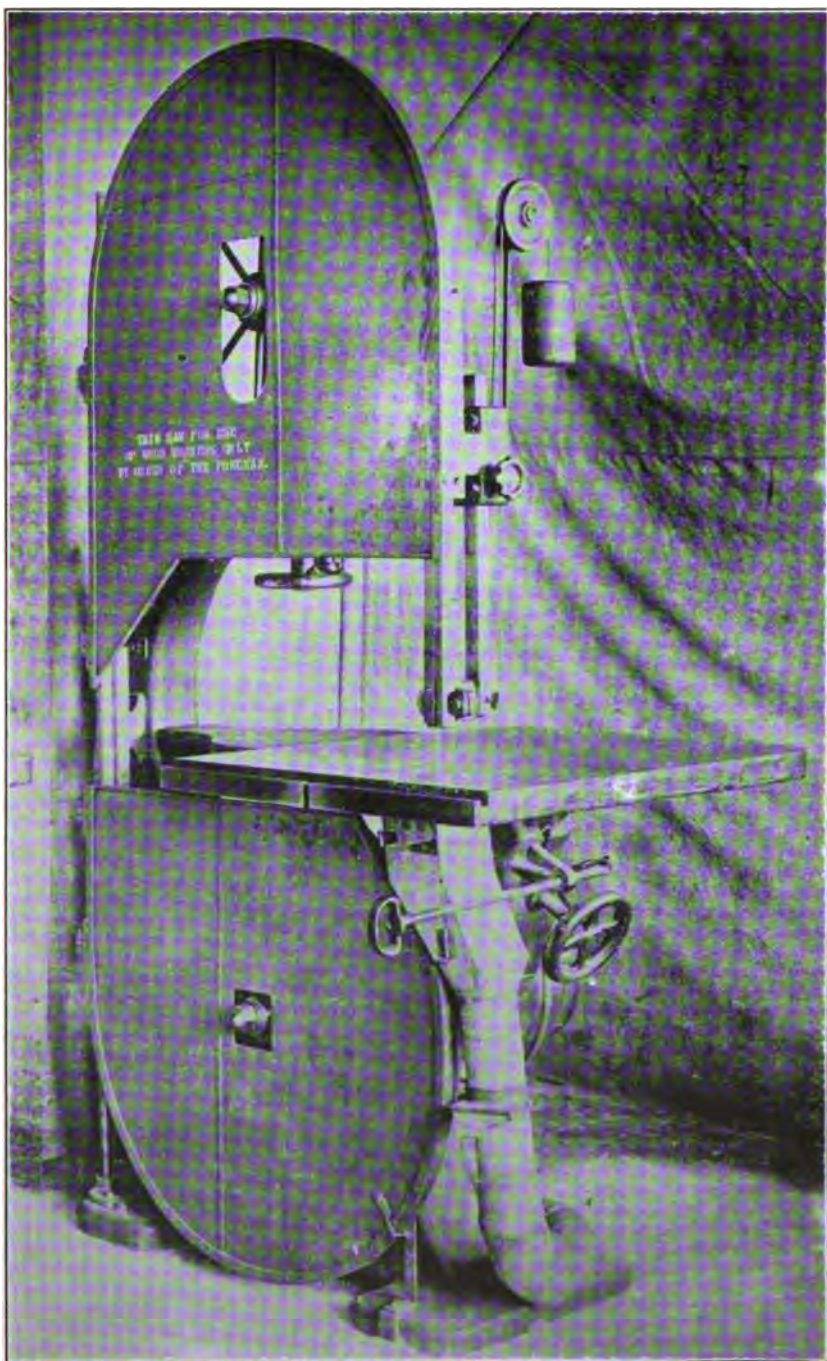


FIG. 24.

Fig. 25 shows a drop press effectively safeguarded. (Courtesy of American Mutual Liability Insurance Company.)

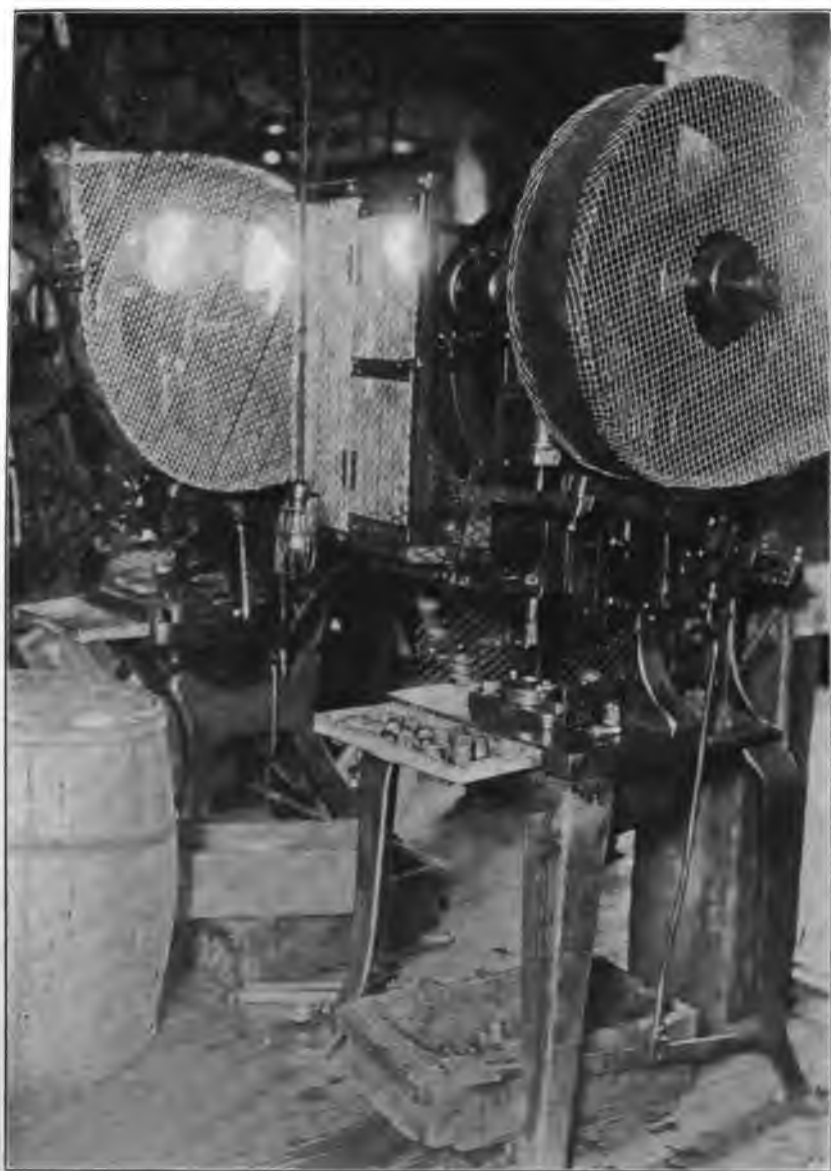


FIG. 25.

Fig. 26 shows a cotton picker with the beater lock open. The machine cannot be started while the cover is raised. (Courtesy of American Mutual Liability Insurance Company.)

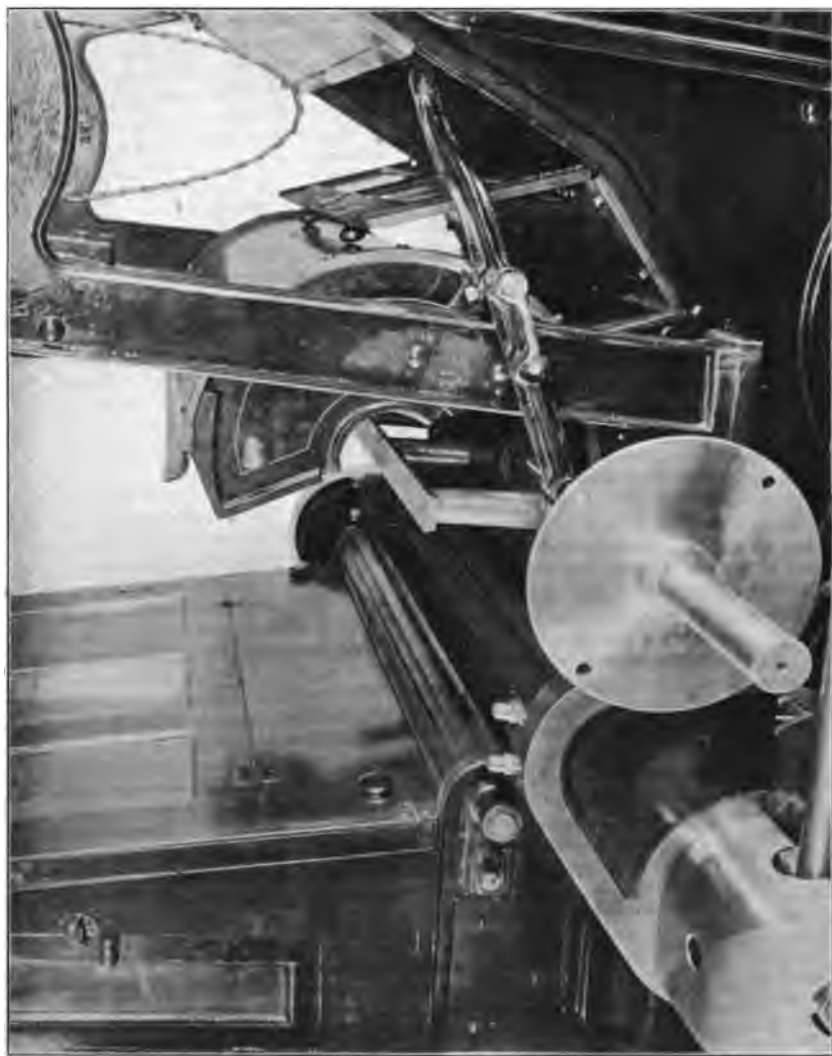


FIG. 26.

Fig. 27 shows the beater lock closed. (Courtesy of American Mutual Liability Insurance Company.)



FIG. 27.

Fig. 28 shows cloth folder with moving cranks and rods entirely enclosed and target guard for blade spindle. (Courtesy of American Mutual Liability Insurance Company.)

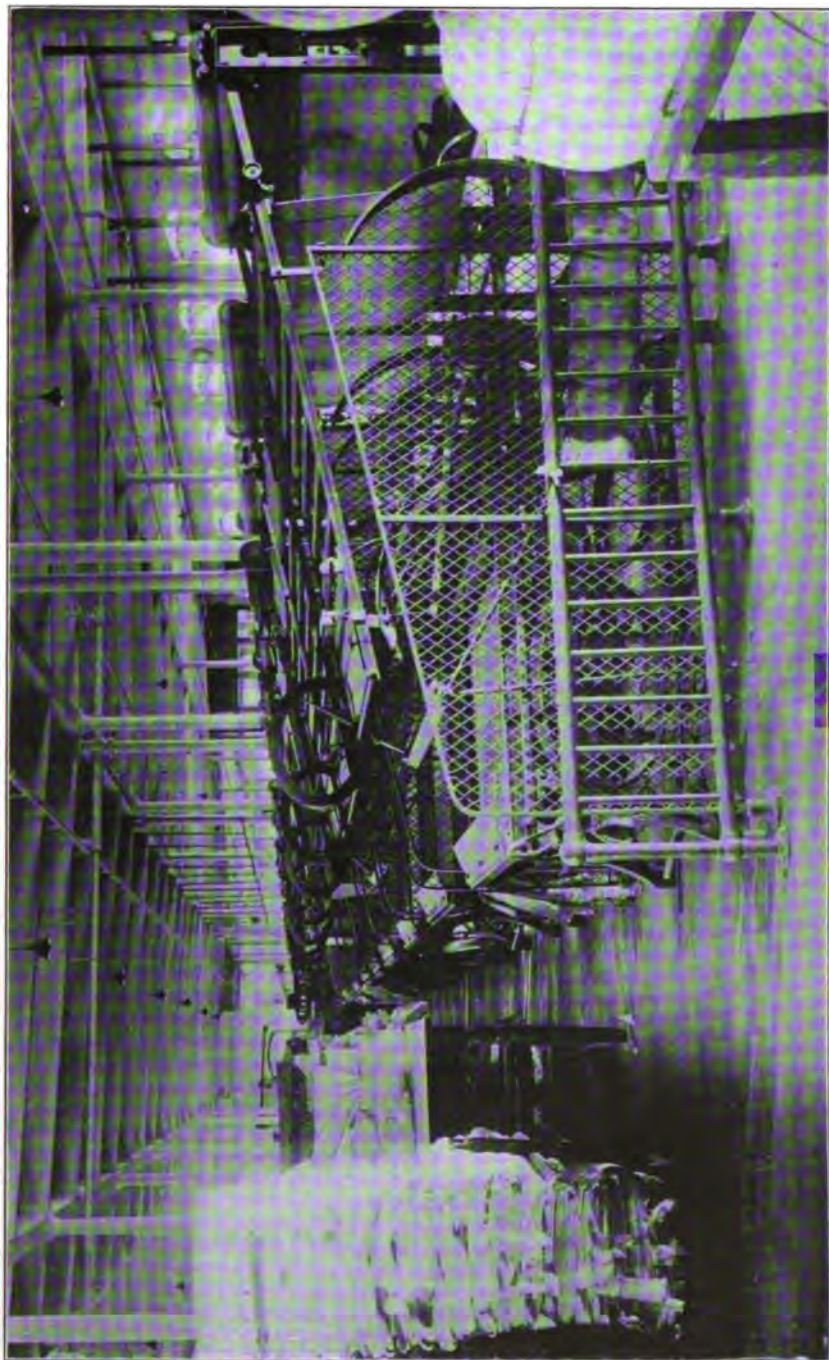


FIG. 28.

Fig. 29 shows a fly-wheel guard. (Courtesy of Security Mutual Casualty Company.)



FIG. 29.

Fig. 30 shows some effective emery wheel guards. (Courtesy of Security Mutual Casualty Company.)



FIG. 30.

Fig. 31 shows guards for buzz planer. (Courtesy of Security Mutual Casualty Company.)



FIG. 31.

Fig. 32 shows an effective belt and pulley guard. (Courtesy of Security Mutual Casualty Company.)

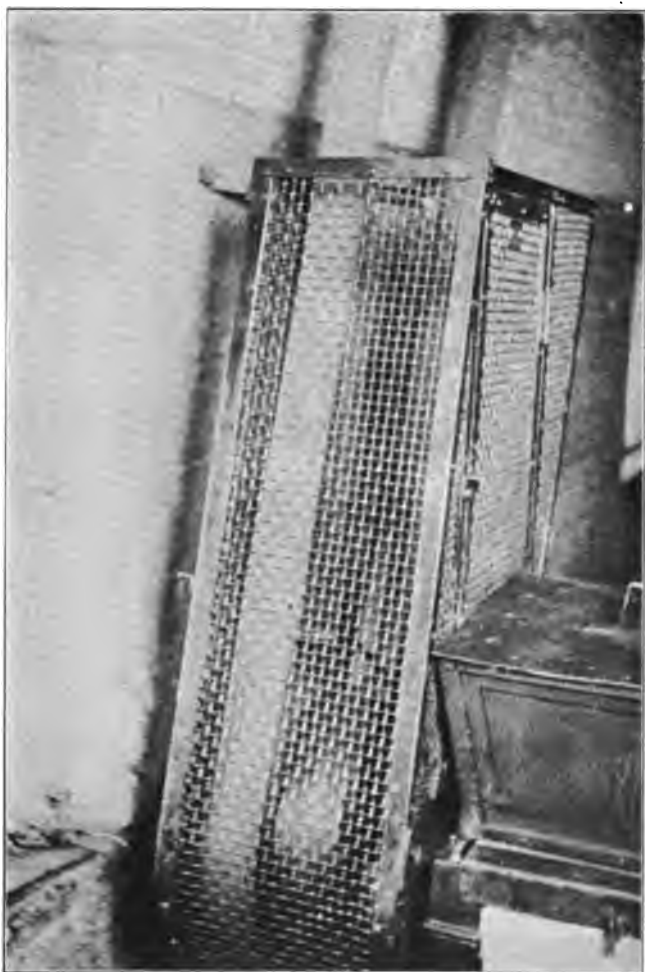


FIG. 32.

Fig. 33 shows a large belt well guarded, also an effective guard in the passageway to prevent injury from the belt and pulley. (Courtesy of Ocean Accident and Guarantee Corporation, Ltd.)

Fig. 34 shows rolls guarded by wooden guard. (Courtesy of Ocean Accident and Guarantee Corporation, Ltd.)



FIG. 33.



FIG. 34.

Fig. 35 shows rolls guarded by heavy iron guards. (Courtesy of Ocean Accident and Guarantee Corporation, Ltd.)

Fig. 36 shows a leather cutting press with the knife, gear wheels and belt well guarded. A. Screen wire guard in front of knife; a similar guard at back of knife prevents operator reaching blade through open frame. BB. Flanged guards in front of gear wheels. C. Pipe rail around belt, also acts as obstruction preventing passageway between belt and wall. (Courtesy of Ocean Accident and Guarantee Corporation, Ltd.)

**FIG. 35.****FIG. 36.**

Fig. 37 shows a flat-work ironer in a laundry. Girls get their arms caught in this machine in the manner shown in the picture. Such accidents have been the most serious in the laundry industry. (Courtesy of Employers Indemnity Exchange.)

Fig. 38 shows an effective safeguard for flat-work ironer shown in Fig. 37. (Courtesy of Employers Indemnity Exchange.)



FIG. 37.



FIG. 38.

Fig. 39 shows a body ironer in a laundry with the rolls well guarded. (Courtesy of Employers Indemnity Exchange.)



FIG. 39.

Fig. 40 shows what may happen if the brakes on a washer in a laundry are not kept in proper working order. (Courtesy of Employers Indemnity Exchange.)

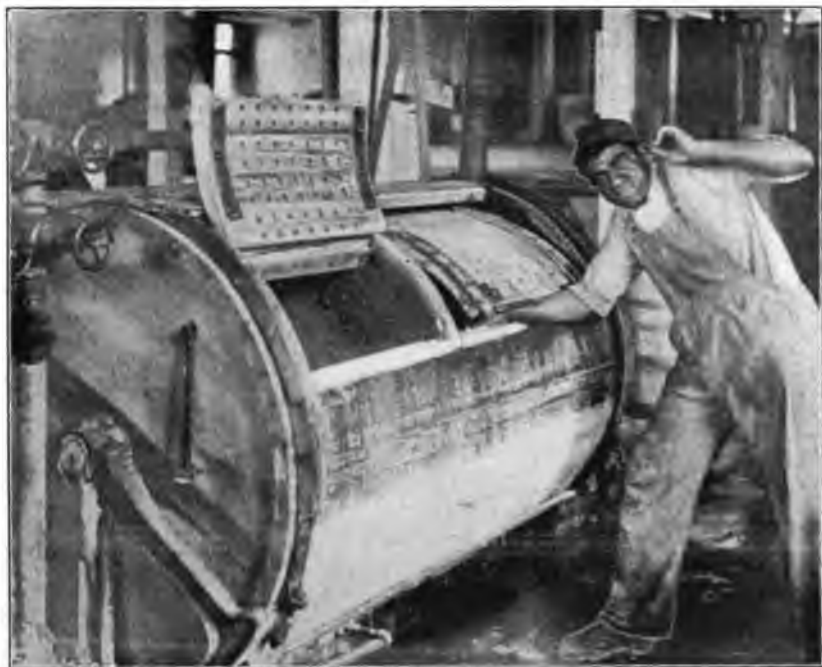
**FIG. 40.**

Fig. 41 shows how an extractor in a laundry may be guarded. (Courtesy of Employers Indemnity Exchange.)



FIG. 41.

Fig. 42 shows a substantial pipe rail guard around a moving belt. The openings in the floor must have toe boards as shown. (Courtesy of Employers Indemnity Exchange.)

Fig. 43 shows a substantial pipe rail guard around an electric motor. (Courtesy of Employers Indemnity Exchange.)

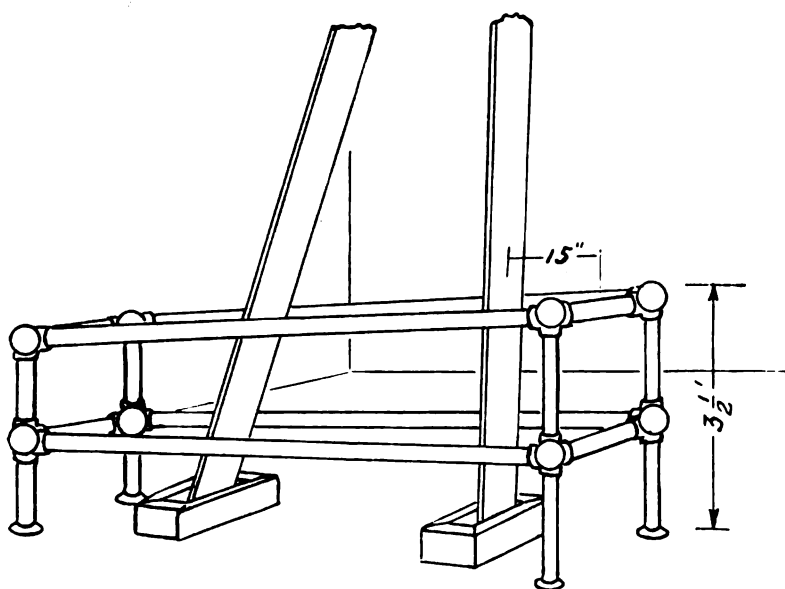


FIG. 42.

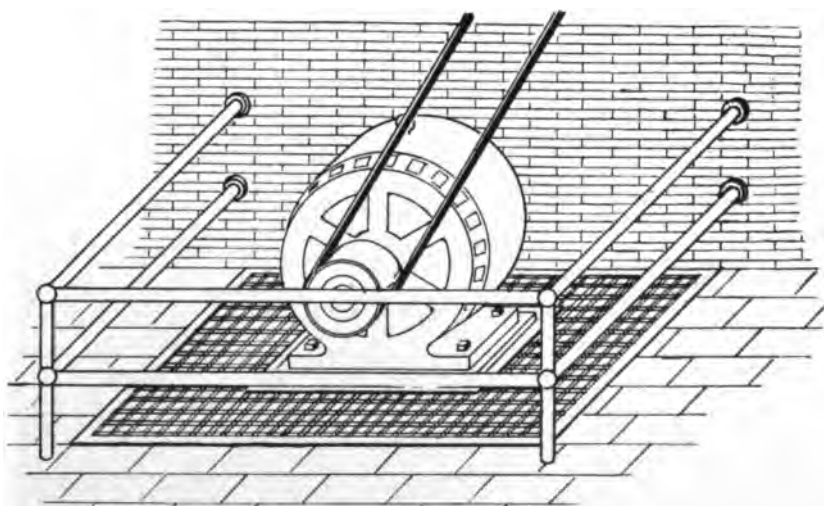


FIG. 43.

APPENDIX.

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STATISTICAL TABLES.

TABLE I. — *Non-fatal Accidents. — Insured, Not Insured, Common-law Rights, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	Insured.	Not insured.	Common-law Rights claimed by Employees whose Employers are insured.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>			
Agriculture,	114	5	-
Forestry,	112	10	-
Animal husbandry,	51	-	-
Ice harvesting,	137	11	-
<i>Extraction of Minerals.</i>			
Mining,	2	-	-
Quarrying,	499	3	-
<i>Building Trades.</i>			
Building and hand trades,	8,409	35	16
<i>Chemical and Allied Products.</i>			
Fertiliser makers,	89	-	-
Paint makers,	52	-	-
Powder, cartridge, fireworks, etc., makers,	139	-	-
Soap makers,	58	-	-
Other chemical workers,	490	-	-
<i>Clay, Glass and Stone Products.</i>			
Brick makers,	92	-	-
Potteries,	27	-	-
Tile makers,	12	-	-
Glass makers, workers,	69	-	-
Terra-cotta workers,	3	-	-
Lime, cement and gypsum,	110	-	-
Marble and stone cutters,	369	-	-
<i>Clothing.</i>			
Clothing makers,	281	3	2
Coat makers,	41	78	-
Hat makers (wool or felt),	40	3	-
Shirt, collar and cuff makers,	69	-	-
<i>Food and Kindred Products.</i>			
Bakeries,	659	5	-
Butter and cheese makers,	7	-	-
Candy,	543	1	-
Fish curers and packers,	60	-	-
Flour and grain mills,	31	1	-
Fruit and vegetable canners, picklers, preservers,	28	-	-
Slaughter and packing houses,	918	21	-
Sugar makers and refiners,	253	-	-
Other food preparers,	244	1	-
<i>Iron and Steel and their Products.</i>			
Agricultural implements,	181	1	-
Automobile factories,	2,114	3	-
Car and railroad shops,	157	-	-
Foundries and metal working,	7,809	618	7
Iron and steel mills,	365	-	-
Ship and boat building,	573	-	1
Wagons and carriages,	124	-	1
Other iron and steel workers,	3,960	20	1

TABLE I. — *Non-fatal Accidents, etc.* — Continued.

INDUSTRIES.	Insured.	Not insured.	Common-law Rights claimed by Employees whose Employers are insured.
<i>Leather and its Finished Products.</i>			
Harness and saddle makers and repairers,	71	-	-
Leather belt, leather case and pocketbook makers,	47	24	-
Shoes,	4,452	5	3
Tanneries,	1,296	32	-
Trunk makers,	15	-	-
<i>Liquors and Beverages.</i>			
Breweries,	548	-	-
Distilleries,	12	-	-
Other liquor and beverage workers,	141	3	-
<i>Lumber and its Remanufacture.</i>			
Box makers (wood),	431	1	-
Furniture,	746	-	-
Pianos and organs,	377	4	-
Saw and planing mills,	300	1	-
Other woodworkers,	1,103	6	-
<i>Metals and Metal Products other than Iron and Steel.</i>			
Brass mills,	174	1	-
Clock factories,	15	-	-
Copper factories,	39	-	-
Gold and silver workers,	93	-	-
Jewelry factories,	268	1	-
Lead and zinc factories,	24	1	-
Tin plate factories,	121	33	-
Watch factories,	14	23	-
Brass and copper,	174	-	-
Other metal workers,	501	3	-
<i>Paper.</i>			
Box makers (paper),	208	1	-
Makers of blank books, envelopes, tags, paper bags, etc.,	182	-	-
Paper mills,	1,645	-	-
Pulp mills,	43	-	-
Other papers,	176	-	-
<i>Printing and Bookbinding.</i>			
Printing and publishing establishments,	833	8	1
<i>Textiles.</i>			
Carpet mills,	272	17	-
Cotton mills,	7,103	111	-
Dyeing and finishing textiles,	640	-	-
Hemp and jute mills,	372	-	-
Knitting mills,	357	-	-
Linen mills,	206	1	-
Print works,	520	-	-
Rope and cordage factories,	80	-	-
Sail, awning and tent makers,	17	1	-
Silk mills,	133	-	-
Woolen and worsted mills,	3,467	43	1
Not specified textile workers,	666	-	-
<i>Miscellaneous Industries.</i>			
Broom and brush makers,	109	-	-
Button makers,	95	1	-
Cigars,	54	-	-
Electric light and power companies,	984	5	-
Electrical supplies,	1,595	6	1
Gas works,	632	416	-
Oil works,	29	-	-
Rubber factories,	1,463	722	-
Straw workers,	35	1	1
Tobacco,	4	-	-
Gas and electric companies,	855	9	-

TABLE I. — *Non-fatal Accidents, etc.* — Concluded.

INDUSTRIES.	Insured.	Not insured.	Common-law Rights claimed by Employees whose Employers are insured.
<i>Miscellaneous Industries—Con.</i>			
Other miscellaneous industries and occupations,	1,173	2	-
Workers in "not specified" manufacturing and mechanical industries,	840	4	-
<i>Water Transportation.</i>			
Water transportation,	875	279	2
<i>Road, Street and Bridge Transportation.</i>			
Construction and maintenance of streets, roads, sewers, bridges, etc.,	3,991	265	4
Livery stables,	190	2	2
Truck, transfer, cab and hack companies,	1,621	21	-
Street railways,	2,422	351	-
Steam railroads,	-	4,052	-
<i>Express Companies.</i>			
Express companies,	354	406	-
<i>Telegraph and Telephone.</i>			
Telegraph and telephone,	50	253	-
<i>Miscellaneous Transportation.</i>			
Other persons in transportation,	65	4	-
<i>Trade.</i>			
Banking and brokerage,	28	-	-
Insurance,	47	2	-
Real estate,	318	6	-
Wholesale and retail trade,	9,183	184	11
Warehouses and cold-storage plants,	401	-	-
Other persons in trade,	114	1	-
Clerical assistants (industry, business or profession not specified),	2	-	-
<i>Professional Service.</i>			
Professional service,	414	77	-
<i>Domestic and Personal Service.</i>			
Occupations not in industries,	1,573	23	2
Laundries and laundry work,	300	7	1
Total,	86,359	8,238	57

TABLE II. — *Fatal Accidents. — Insured, Not Insured, Common-law Rights, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	Insured.	Not insured.	Common-law Rights claimed by Employees whose Employers are insured.
<i>Agriculture, Forestry and Animal Husbandry.</i>			
Agriculture,	1	2	-
Forestry,	3	-	-
Animal husbandry,	1	-	-
<i>Extraction of Minerals.</i>			
Quarrying,	5	1	-
<i>Building Trades.</i>			
Building and hand trades,	48	6	3
<i>Chemical and Allied Products.</i>			
Paint makers,	1	-	-
Powder, cartridge, fireworks, etc., makers,	1	-	-
Other chemical workers,	2	-	-
<i>Clay, Glass and Stone Products.</i>			
Tile makers,	1	-	-
Marble and stone cutters,	2	-	-
<i>Food and Kindred Products.</i>			
Fish curers and packers,	1	-	1
Slaughter and packing houses,	4	-	2
Sugar makers and refiners,	2	-	-
Other food preparers,	3	-	-
<i>Iron and Steel and their Products.</i>			
Car and railroad shops,	1	-	-
Foundries and metal working,	7	-	1
Iron and steel mills,	1	-	-
Ship and boat building,	5	-	-
Other iron and steel workers,	3	-	-
<i>Leather and its Finished Products.</i>			
Leather belt, leather case and pocketbook makers,	-	1	-
Shoes,	4	-	-
Tanneries,	4	-	-
<i>Liquors and Beverages.</i>			
Breweries,	2	-	-
<i>Lumber and its Remanufacture.</i>			
Box makers (wood),	2	-	-
Furniture,	1	-	-
Pianos and organs,	1	-	-
Saw and planing mills,	2	-	-
Other woodworkers,	1	-	-
<i>Metals and Metal Products Other than Iron and Steel.</i>			
Other metal workers,	1	-	-
<i>Paper.</i>			
Paper mills,	6	-	-
Other papers,	1	-	-
<i>Printing and Bookbinding.</i>			
Printing and publishing establishments,	2	-	-
<i>Textiles.</i>			
Cotton mills,	7	-	1
Dyeing and finishing textiles,	3	-	-
Rope and cordage factories,	1	-	-
Woolen and worsted mills,	11	-	1
Not specified textile workers,	1	-	-

TABLE II. — *Fatal Accidents, etc.* — Concluded.

INDUSTRIES.	Insured.	Not insured.	Common-law Rights claimed by Employees whose Employers are insured.
<i>Miscellaneous Industries.</i>			
Electric light and power companies,	6	-	-
Electrical supplies,	1	-	-
Gas works,	1	2	-
Rubber factories,	1	-	-
Straw workers,	1	-	-
Gas and electric companies,	3	-	-
Other miscellaneous industries and occupations,	1	-	-
Workers in "not specified" manufacturing and mechanical industries,	6	-	-
<i>Water Transportation.</i>			
Water transportation,	2	2	-
<i>Road, Street and Bridge Transportation.</i>			
Construction and maintenance of streets, roads, sewers, bridges, etc.,	43	1	1
Livery stables,	4	-	1
Truck, transfer, cab and hack companies,	13	2	1
Street railways,	7	2	-
Steam railroads,	-	56	-
<i>Express Companies.</i>			
Express companies,	1	1	-
<i>Telegraph and Telephone.</i>			
Telegraph and telephone,	-	2	-
<i>Miscellaneous Transportation.</i>			
Other persons in transportation,	1	-	-
<i>Trade.</i>			
Banking and brokerage,	1	-	-
Insurance,	1	-	-
Real estate,	2	1	-
Wholesale and retail trade,	37	1	2
Warehouses and cold-storage plants,	2	-	-
Other persons in trade,	1	-	-
<i>Professional Service.</i>			
Professional service (all kinds),	3	-	-
<i>Domestic and Personal Service.</i>			
Occupations not in industries,	8	1	-
Laundries and laundry work,	1	-	-
Total,	289	81	14

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	CAUSE.									
	Animals, Insects, etc.	Asphyxiation, Drowning, Immersion, etc.	Assault and Fighting.	BELTING.						Boiler Explosions.
				Shifting by Stick or Hand, etc.	Caught between Belt and Pulley (not while shifting).	Contact with Running Bolt (not while shifting).	Hooks or Fasteners (not while shifting).	Struck by Breaking Bolt.	Replacing Belt with Stick.		Miscellaneous.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>										
Agriculture,	6	-	-	-	-	-	-	-	-	-
Forestry,	1	-	-	-	-	-	-	-	-	-
Animal husbandry,	1	-	-	-	-	-	-	-	-	-
Ice harvesting,	2	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>										
Mining,	-	-	-	-	-	-	-	-	-	-
Quarrying,	3	-	-	-	-	-	-	1	-	-
<i>Building Trades.</i>										
Building and hand trades,	69	4	5	2	-	2	-	-	-	1
<i>Chemical and Allied Products.</i>										
Fertiliser makers,	2	-	-	1	-	-	-	-	-	1
Paint makers,	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	1	-	-	-	1	1	-	-	-	1
Soap makers,	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	2	2	1	-	2	-	1	-	-	-
<i>Clay, Glass and Stone Products.</i>										
Brick makers,	3	-	-	-	-	-	-	-	-	-
Potteries,	-	-	-	-	-	-	-	-	-	1

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										Boiler Explosions.
	Animals, Insects, etc.	Asphyxiation, Drowning, Immersion, etc.	Assault and Fighting.	Shifting by Stick or Hand, etc.	Caught between Belt and Pulley (not while shifting).	Contact with Running Belt (not while shifting).	Hooks or Fasteners (not while shifting).	Struck by Breaking Belt.	Re-placing Belt with Stick.	Miscellaneous.	
<i>Liquors and Beverages.</i>											
Breweries,	20	-	-	1	-	-	-	-	-	-	1
Distilleries,		-	-	-	-	1	-	-	-	-	-
Other liquor and beverage workers,	2	-	-	-	-	-	-	-	-	-	-
<i>Lumber and its Remanufacture.</i>											
Box makers (wood),	2	-	-	3	-	2	-	3	-	0	-
Furniture,	5	-	-	-	1	2	-	2	-	2	-
Pianos and organs,	1	-	-	-	-	9	-	1	-	1	-
Saw and planing mills,	3	-	-	-	1	-	-	1	-	-	-
Other woodworkers,	8	-	-	4	3	2	1	-	-	3	-
<i>Metals and Metal Products Other than Iron and Steel.</i>											
Brass mills,	-	1	1	3	-	1	2	-	-	1	-
Clock factories,	-	-	-	-	-	-	-	-	-	-	-
Copper factories,	-	-	-	-	-	-	-	-	-	-	-
Gold and silver workers,	-	-	-	-	2	-	1	-	-	1	-
Jewelry factories,	-	-	-	3	-	-	-	-	-	-	-
Lead and zinc factories,	-	-	-	-	-	-	-	-	-	-	-
Tin-plate factories,	-	-	2	-	-	-	-	-	-	-	-
Watch factories,	-	-	-	1	1	-	-	-	-	-	-
Brass and copper,	-	-	-	-	-	-	-	1	1	-	-
Other metal workers,	-	-	-	-	-	-	-	-	-	1	-
<i>Paper.</i>											
Box makers (paper),	1	-	-	1	-	1	-	-	-	-	-
Makers of blank books, envelopes, tags, paper bags, etc.	-	-	-	-	1	-	1	-	-	-	-

Paper mills,	4	-	-	6	4	8	1	-	-	7	-
Pulp mills,	-	-	-	-	1	2	-	-	-	2	1
Other papers,	-	-	-	-	-	-	-	-	-	-	-
Printing and bookbinding,	3	1	-	-	-	-	-	-	-	1	-
Printing and publishing establishments,	-	-	-	-	-	-	-	-	-	-	-
<i>Textiles.</i>											
Carpet mills,	-	-	-	6	6	52	46	1	2	30	4
Cotton mills,	13	-	-	3	54	1	2	38	-	-	-
Dyeing and finishing textiles,	1	-	-	1	1	1	2	2	-	-	-
Hemp and jute mills,	1	-	-	1	1	1	1	1	-	3	1
Knitting mills,	1	-	-	1	1	1	2	2	-	2	-
Linen mills,	1	-	-	1	1	1	1	4	-	4	-
Print works,	4	2	-	6	6	2	1	-	-	-	-
Rope and cordage factories,	-	-	-	-	-	-	-	-	-	-	-
Sail, awning and tent makers,	-	-	-	-	-	-	-	-	-	-	-
Silk mills,	-	-	-	-	-	1	1	-	-	15	1
Woolen and worsted mills,	4	1	-	7	1	25	11	20	1	4	-
Not specified textile workers,	1	-	-	-	3	6	3	3	-	-	-
<i>Miscellaneous Industries.</i>											
Broom and brush makers,	-	-	-	-	2	-	-	-	-	1	-
Button makers,	-	-	-	-	-	-	-	-	-	-	-
Cigars,	-	-	-	-	-	-	-	-	-	-	-
Electric light and power companies,	11	4	-	-	-	1	-	1	-	1	3
Electrical supplies,	1	-	-	-	-	1	-	-	-	2	-
Gas works,	23	17	2	2	1	1	-	1	-	1	-
Oil works,	2	-	-	-	-	-	-	-	-	-	-
Rubber factories,	1	5	2	4	2	3	2	-	-	3	1
Straw workers,	-	-	-	-	-	-	-	-	-	-	-
Tobacco,	-	-	-	-	-	-	-	-	-	-	-
Gas and electric companies,	6	3	-	-	-	5	5	2	1	-	-
Other miscellaneous industries and occupations,	1	-	-	-	8	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	2	2	-	-	-	5	3	1	-	-	-
<i>Water Transportation.</i>											
Water transportation,	7	3	-	-	-	-	-	-	-	-	1

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										
	Animals, Insects, etc.	Asphyxiation, Drowning, Immersion, etc.	Assault and Fighting.	BELTING.					Re-placing Belt with Stick.	Miscellaneous.	Boiler Explosions.
				Shift-ing by Stick or Hand, etc.	Caught between Belt and Pulley (not while shift-ing).	Contact with Running Belt (not while shift-ing).	Hooks or Fasteners (not while shift-ing).	Struck by Break-ing Belt.			
<i>Road, Street and Bridge Transportation.</i>											
Construction and maintenance of streets, roads, sewers, bridges, etc.,	55	8	2	1	1	1	-	1	-	1	1
Livery stables,	85	-	2	-	-	-	-	-	-	-	-
Truck, transfer, cab and hack companies,	122	1	38	1	2	1	1	-	-	-	4
Street railways,	17	-	4	2	2	-	-	-	-	-	5
Steam railroads,	1	-	-	-	-	-	-	-	-	-	-
<i>Express Companies.</i>											
Express companies,	46	-	-	-	-	-	-	-	-	-	1
<i>Telegraph and Telephone.</i>											
Telegraph and telephone,	5	2	-	-	-	-	-	-	-	-	-
<i>Miscellaneous Transportation.</i>											
Other persons in transportation,	4	-	-	-	-	-	-	-	-	-	-
<i>Trade.</i>											
Banking and brokerage,	1	-	-	-	-	-	-	-	-	-	1
Insurance,	-	-	-	-	-	-	-	-	-	-	-
Real estate,	-	-	-	-	-	-	-	-	-	-	-
Wholesale and retail trade,	295	6	10	-	2	7	-	2	-	1	2
Warehouses and cold-storage plants,	3	2	1	-	-	-	-	-	-	-	-

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	BURNS.					Cal- enders.	CRANES.					
	Chem- ical.	Fire.	Hot Objects.	Molten Metal.	Steam, Hot Liquids, etc.		Break- ing Cable or Chain.	Break- ing Hook.	Caught in Moving Parts.	Struck by Load.	Struck on Runway by Moving Crane.	Miscel- laneous.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>												
Agriculture,	1	1	-	-	1	-	-	-	-	-	-	-
Forestry,	-	1	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	1	-	-	1	-	-	-	-	-	-	-
Ice harvesting,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>												
Mining,	-	2	-	-	-	-	-	-	3	4	-	6
Quarrying,	-	-	2	-	-	-	-	-	-	-	-	-
<i>Building Trades.</i>												
Building and hand trades,	25	32	14	23	119	7	1	2	11	1	30	-
<i>Chemical and Allied Products.</i>												
Fertiliser makers,	3	-	-	-	1	-	-	-	-	-	-	-
Paint makers,	-	-	-	1	3	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	1	1	1	-	-	-	-	-	-	-	-	-
Salt makers,	3	-	-	-	4	-	-	-	-	-	-	-
Soap makers,	42	1	4	-	15	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>												
Brick makers,	-	1	-	1	-	-	-	-	-	-	-	-
Potteries,	-	-	-	-	-	-	-	-	-	-	-	-

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	BURNS.					Cal- enders.	CRANES.					
	Chem- ical.	Fire.	Hot Objects.	Molten Metal.	Steam, Hot Liquids, etc.		Break- ing Cable or Chain.	Break- ing Hook.	Caught in Moving Parts.	Struck by Load.	Struck on Runway by Moving Crane.	Miscel- laneous.
<i>Liquors and Beverages.</i>												
Breweries,	1	-	-	-	10	-	-	-	-	-	-	-
Distilleries,	1	-	1	-	1	-	-	-	-	-	-	-
Other liquor and beverage workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumber and its Remanufacture.</i>												
Box makers (wood),	-	3	-	-	1	-	-	-	-	-	-	-
Furniture,	-	4	3	5	5	-	-	-	-	-	-	-
Pianos and organs,	-	-	1	3	2	-	-	-	-	-	-	-
Saw and planing mills,	-	-	-	-	2	-	-	-	-	-	-	-
Other woodworkers,	-	-	1	-	4	-	-	-	1	-	-	-
<i>Metals and Metal Products Other than Iron and Steel.</i>												
Brass mills,	1	2	3	13	1	-	-	-	-	-	-	-
Clock factories,	-	-	-	-	-	-	-	-	-	-	-	-
Copper factories,	-	-	1	-	-	-	-	-	1	-	-	-
Gold and silver workers,	1	1	1	1	1	-	-	-	-	-	-	-
Jewelry factories,	5	1	-	2	2	-	-	-	-	-	-	-
Lead and zinc factories,	-	-	-	1	-	-	-	-	-	-	-	-
Tin-plate factories,	-	-	-	-	-	-	-	-	-	-	-	-
Watch factories,	-	-	1	-	-	-	-	-	-	-	-	-
Brass and copper,	1	2	4	6	1	-	-	-	1	-	-	-
Other metal workers,	3	1	2	13	1	-	-	-	-	-	-	3
<i>Paper.</i>												
Box makers (paper),	1	-	-	-	-	2	-	-	-	-	-	-
Makers of blank books, envelopes, tags, paper bags, etc.,	-	-	-	-	1	-	-	-	-	-	-	-

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	BURNS.				Cal- enders.	CRANES.				Miscel- laneous.
	Chem- ical.	Fire.	Hot Objects.	Molten Metal.		Break- ing Cable or Chain.	Break- ing in Moving Parts.	Struck by Load.	Struck on Runway by Moving Crane.	
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, sewers, bridges, etc.,	4	25	29	6	-	2	1	16	1	19
Livery stables,	1	-	-	-	-	-	-	-	-	2
Truck transfer cab and hack companies, Street railways,	6	6	2	-	-	-	-	1	-	4
Street railways,	2	3	9	9	-	-	-	1	3	4
Steam railroads,	7	15	35	3	-	2	5	10	1	9
<i>Express Companies.</i>										
Express companies,	-	1	-	-	-	-	-	-	-	-
<i>Telegraph and Telephone.</i>										
Telegraph and telephone,	-	4	-	1	-	-	-	-	-	-
<i>Miscellaneous Transportation.</i>										
Other persons in transportation,	-	1	-	-	-	-	-	-	-	-
<i>Trade.</i>										
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	-	-	-
Real estate,	-	2	2	-	-	-	-	-	-	-
Wholesale and retail trade,	17	21	45	1	1	-	1	2	-	1
Warehouses and cold-storage plants,	-	1	5	-	-	-	-	-	-	-

Other persons in trade, Clerical assistants (industry, business or profession not specified),	-	1	-	-	1	-	-	-	-	-
<i>Professional Service.</i>										
Professional service (all kinds), . . .	3	7	6	-	27	-	-	-	-	-
<i>Domestic and Personal Service.</i>										
Occupations not in industries, Laundries and laundry work, . . .	4	13	23	-	147	-	-	-	-	-
	1	4	11	-	16	-	-	-	-	-
Total,	307	355	678	682	1,297	5	66	99	7	130

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	Drills.	CAUSE.						ELEVATORS.					
		ELECTRICITY.			Caught between Car and Shaft.	Caught Underneath or on Top of Car.	Falling Car.	Falling down Shaft (Person).	Struck by Falling Object.	Caught by Fire Hatch or Trap.	Miscellaneous.		
		Fuses and Short Circuits.	Shocks.	Other Generator and Motor Accidents.									
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>													
Agriculture,	-	-	-	-	-	-	-	-	-	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	-	-	-
Ice harvesting,	-	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>													
Mining,	-	-	-	-	-	-	-	-	-	-	-	-	-
Quarrying,	9	-	-	-	-	-	-	-	1	-	-	-	-
<i>Building Trades.</i>													
Building and hand trades,	21	5	12	3	3	1	4	0	7	-	10	-	-
<i>Chemical and Allied Products.</i>													
Fertilizer makers,	1	-	-	-	-	1	-	-	-	-	-	-	-
Paint makers,	-	-	-	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	1	-	-	-	-	-	-	-	-	-	-	-	-
Soap makers,	-	-	-	-	1	-	-	-	-	-	1	-	-
Other chemical workers,	-	-	-	-	5	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>													
Brick makers,	-	-	-	-	-	-	1	-	-	-	-	-	-
Potteries,	-	-	-	-	-	-	-	-	-	-	-	-	-

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc. — Continued.*

INDUSTRIES.	CAUSE.										
	Drills.	Electricity.			Elevators.						
		Flashes and Short Circuits.	Shocks.	Other Generator and Motor Accidents.	Caught in Machinery.	Caught between Car and Shaft.	Caught underneath or on Top of Car.	Falling Car.	Falling down Shaft (Person).	Struck by Falling Object.	Caught by Fire Hatch or Trap.	Miscellaneous.
<i>Liquors and Beverages.</i>											
Breweries,	-	-	-	-	-	-	-	-	2	-	2
Distilleries,	-	-	-	-	-	-	-	-	-	-	-
Other liquor and beverage workers,	-	-	-	-	-	-	1	-	-	-	-
<i>Lumber and its Remanufacture.</i>											
Box makers (wood),	-	1	-	2	1	-	-	1	1	-	2
Furniture,	3	-	-	-	2	-	-	2	2	-	4
Pianos and organs,	3	-	-	-	2	-	-	-	-	-	2
Saw and planing mills,	-	1	-	-	-	-	-	-	-	-	2
Other woodworkers,	6	1	1	-	4	-	1	1	-	-	1
<i>Metals and Metal Products Other than Iron and Steel.</i>											
Brass mills,	1	-	-	-	-	-	-	-	-	-	-
Clock factories,	1	-	-	-	-	-	-	-	-	-	-
Copper factories,	1	-	-	-	-	-	-	-	-	-	-
Gold and silver workers,	-	-	-	-	-	-	-	-	-	-	-
Jewelry factories,	1	1	-	-	-	-	-	-	-	-	1
Lead and zinc factories,	-	-	-	-	-	-	-	-	-	-	-
Tin-plate factories,	-	-	-	-	-	-	-	-	-	-	-
Watch factories,	-	-	-	-	-	-	-	-	-	-	-
Brass and copper,	1	-	-	-	-	-	-	-	-	-	-
Other metal workers,	5	2	1	-	2	-	-	-	1	-	1
<i>Paper.</i>											
Box makers (paper),	-	-	-	1	1	-	1	-	-	-	3
Makers of blank books, envelopes, tags, paper bags, etc.,	1	-	-	1	1	-	-	-	1	-	2

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	Drills.	ELECTRICITY.			ELEVATORS.					
		Flashes and Short Circuits.	Shocks.	Other Generator and Motor Accidents.	Caught between Car and Shaft.	Caught Underneath or on Top of Car.	Falling from Car.	Falling down Shaft (Person).	Struck by Falling Object.	Caught by Fire Hatch or Trap.
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, viaducts, bridges, etc.	24	2	8	1	-	-	-	-	2	6
Livery stables.	1	-	-	-	-	-	-	1	-	1
Truck, transfer, cab and hack companies.	11	50	27	6	2	1	1	3	-	6
Street railways.	23	2	4	6	1	-	-	1	-	3
Steam railroads.										-
<i>Express Companies.</i>										
Express companies.	2	-	-	-	2	-	-	2	-	7
<i>Telegraph and Telephone.</i>										
Telegraph and telephone.	-	2	4	1	-	-	1	-	1	-
<i>Miscellaneous Transportation.</i>										
Other persons in transportation.	-	-	-	1	-	-	-	-	-	-
<i>Trade.</i>										
Banking and brokerage.	-	-	-	1	1	-	-	1	-	-
Insurance.	1	-	-	-	3	-	-	5	-	1
Real estate.	1	3	-	-	1	1	-	-	-	21
Wholesale and retail trade.	6	12	4	4	41	9	12	14	8	91
Warehouses and cold-storage plants.	2	-	2	-	6	1	-	1	1	6

Tile makers,																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
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TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc. — Continued.*

INDUSTRIES.	CAUSE.									
	EMERY WHEELS.		ENGINES.			EXCAVATING.			EYE INJURIES.	
	Bursting.	Cuts and Abrasions.	Caught in or struck by Moving Part.	Fly-wheel burst-ing.	Miscellaneous.	Blasting and Drilling.	Cave-in.	Miscellaneous.	Explosions (Other than Boilers).	Ex-tractors (Centrifugal).
<i>Liquors and Beverages.</i>										
Breweries,	-	-	3	-	-	-	-	-	2	-
Distilleries,	-	-	1	-	-	-	-	-	2	-
Other liquor and beverage workers,	-	-	-	-	-	-	-	-	-	-
<i>Lumber and its Manufacture.</i>										
Box makers (wood),	-	2	-	-	-	-	-	-	-	-
Furniture,	-	7	2	-	1	-	-	-	-	-
Pianos and organs,	-	6	-	-	-	-	-	-	-	-
Saw and planing mills,	-	2	3	-	-	-	-	-	-	-
Other woodworkers,	-	10	-	-	1	-	-	-	-	-
<i>Metals and Metal Products Other than Iron and Steel.</i>										
Brass mills,	1	11	-	-	-	-	-	-	1	-
Clock factories,	-	-	1	-	-	-	-	-	-	-
Copper factories,	-	-	-	-	-	-	-	-	-	-
Gold and silver workers,	1	-	-	-	-	-	-	-	-	-
Jewelry factories,	-	7	1	-	-	-	-	-	1	-
Lead and zinc factories,	-	1	-	-	-	-	-	-	-	-
Tin-plate factories,	-	1	-	-	-	-	-	-	-	-
Watch factories,	-	1	-	-	-	-	-	-	-	-
Brass and copper,	-	2	-	-	-	-	-	-	3	-
Other metal workers,	-	13	-	-	-	-	-	-	-	-
<i>Paper.</i>										
Box makers (paper),	-	-	-	-	-	-	-	-	-	-
Makers of blank books, envelopes, tags, paper bags, etc.,	-	-	1	-	-	-	-	-	-	-

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	EMERY WHEELS.		ENGINES.			EXCAVATING.			EYE INJURIES.	
	Burst- ing.	Cuts and Ab- rasions.	Caught in or struck by Moving Part.	Fly- wheel burst- ing.	Miscel- laneous.	Blasting and Drilling.	Cave-in.	Miscel- laneous.	Ex- plo- sions (Other than Boilers).	Ex- tractors (Con- trifugal).
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, sewers, bridges, etc., . . .	-	2	9	-	4	42	86	56	9	-
Livery stables, . . .	-	1	-	-	-	-	2	1	-	-
Truck, transfer, cab and hack companies, . .	-	11	4	-	-	-	2	-	5	-
Street railways, . . .	1	17	5	-	17	-	2	-	2	-
Steam railroads, . . .	-	-	-	-	-	-	-	-	-	-
<i>Express Companies.</i>										
Express companies, . . .	-	-	-	-	-	-	-	-	-	2
<i>Telegraph and Telephone.</i>										
Telegraph and Telephone, . . .	-	1	-	-	1	-	1	-	2	-
<i>Miscellaneous Transportation.</i>										
Other persons in transportation, . . .	-	-	-	1	-	-	-	-	-	-
<i>Trade.</i>										
Banking and brokerage, . . .	-	-	-	-	-	-	-	-	-	-
Insurance, . . .	-	-	-	-	-	-	-	-	-	-
Real estate, . . .	-	-	-	-	1	1	1	-	2	3
Wholesale and retail trade, . . .	-	5	4	-	3	1	1	-	13	14
Warehouses and cold-storage plants, . . .	-	1	2	-	3	-	-	-	-	2

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TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.							Falling Material from Overhead.	FALLS.		
	EYE INJURIES — Con.								From Fixed Ladders.	Into Holes, Pits, etc.	Over Obstructions.
	Electric Flash.	Emery Wheels.	Flying Particles from Hand Tools.	Lubricator and Gage Glasses.	Machine Tools (including Portable Tools).	Molten Metal.	Miscellaneous.				
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>											
Agriculture,	—	—	1	—	—	—	1	—	1	—	2
Forestry,	—	1	1	—	—	—	3	—	1	—	—
Animal husbandry,	—	—	1	—	—	—	1	—	1	—	—
Ice harvesting,	—	—	—	—	—	—	—	—	—	—	—
<i>Extraction of Minerals.</i>											
Mining,	—	—	—	—	—	—	—	—	—	—	—
Quarrying,	—	1	49	—	7	—	18	—	1	1	1
<i>Building Trades.</i>											
Building and hand trades,	3	21	88	1	22	11	229	2	74	63	122
<i>Chemical and Allied Products.</i>											
Fertiliser makers,	—	—	—	—	1	—	3	—	1	—	—
Paint makers,	—	—	—	—	—	—	1	—	—	—	—
Powder, cartridge, fireworks, etc., makers,	—	5	1	—	2	—	4	—	1	—	2
Soap makers,	—	—	1	—	—	—	1	—	1	—	—
Other chemical workers,	—	4	3	—	3	—	14	—	3	2	—
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	—	2	—	—	—	—	3	—	2	—	—
Potteries,	—	—	—	—	—	—	—	—	—	—	—

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TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	Eyes Injuries — Con.					Falling Material from Overhead.	Falls.			
	Electric Flash.	Emery Wheels.	Flying Particles from Hand Tools.	Lubricator and Grease Glasses.	Machine Tools (including Portable Tools).		Molten Metal.	Miscellaneous.	From Fixed Ladders.	Into Holes, Pits, etc.
<i>Liquors and Beverages.</i>										
Breweries.	—	2	—	—	—	4	—	12	—	3
Distilleries.	—	—	—	—	1	1	—	1	—	—
Other liquor and beverage workers.	—	1	—	—	—	2	—	2	—	—
<i>Lumber and its Manufacture.</i>										
Box makers (wood).	—	5	3	—	6	6	—	18	—	1
Furniture.	—	14	7	—	9	2	—	19	—	—
Furnace and organ.	—	6	—	—	1	3	—	4	—	—
Saw and planing mills.	—	6	1	—	1	1	—	1	—	—
Other woodworkers.	—	50	2	1	11	7	—	27	—	3
<i>Metal and Metal Products Other than Iron and Steel.</i>										
Brass mills.	—	5	—	—	2	1	4	1	—	—
Clock factories.	—	1	—	—	1	—	—	—	—	—
Copper factories.	—	1	1	—	—	—	—	—	—	—
Gold and silver workers.	—	4	—	—	1	—	1	5	—	—
Jewelry factories.	—	14	1	—	2	—	—	5	—	—
Lead and zinc factories.	—	—	—	—	—	—	—	—	—	—
Tin-plate factories.	—	—	—	—	—	—	—	—	—	—
Watch factories.	—	3	—	—	1	1	—	1	—	—
Brass and copper.	—	1	1	—	4	1	—	4	—	—
Other metal workers.	—	27	3	—	10	2	2	23	—	—
<i>Paper.</i>										
Box makers (paper).	—	—	—	—	—	—	—	1	—	—
Makers of blank books, envelopes, tags, paper bags, etc.	—	6	—	—	—	—	—	—	—	—

Paper mills,	1	18	7	-	3	-	31	18	-	10	4	2	1
Pulp mills,	-	2	-	-	-	-	1	2	-	1	2	3	-
Other papers,	-	-	-	-	-	-	2	-	-	-	-	-	-
Printing and Bookbinding.													
Printing and publishing establishments, ^a	-	3	-	-	1	-	7	3	-	2	8	-	-
Textiles.													
Carpet mills,	-	4	2	-	1	-	4	6	-	1	-	-	-
Cotton mills,	4	113	28	-	31	-	115	61	-	17	39	-	-
Dyeing and finishing textiles,	-	5	5	-	4	-	10	4	-	6	1	-	-
Hemp and jute mills,	-	6	7	-	4	-	13	2	-	1	5	-	-
Knitting mills,	-	9	2	-	3	-	6	2	-	-	2	-	-
Linon mills,	-	5	3	-	1	-	5	2	-	-	1	-	-
Print works,	2	2	4	-	4	-	6	3	-	4	3	-	-
Rope and cordage factories,	-	-	1	-	-	-	-	-	-	1	-	-	-
Sail awning and tent makers,	-	-	-	-	-	-	-	-	-	1	-	-	-
Silk mills,	-	1	-	-	-	-	3	2	-	1	-	-	-
Woolen and worsted mills,	1	27	17	-	14	-	60	30	-	17	18	-	-
Not specified textile workers,	-	13	3	-	4	-	19	10	-	1	1	-	-
Miscellaneous Industries.													
Broom and brush makers,	-	1	-	-	-	-	3	-	-	1	-	-	-
Button makers,	-	-	-	-	-	-	3	-	-	-	-	-	-
Cigars,	-	-	-	-	-	-	-	-	-	-	-	-	-
Electric light and power companies,	4	6	5	-	2	-	23	24	-	5	6	-	-
Electrical supplies,	5	93	25	-	65	-	98	12	-	16	11	-	-
Gas works,	-	4	14	-	4	-	56	40	-	-	7	-	-
Oil works,	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubber factories,	1	74	2	-	12	-	75	36	-	2	8	-	-
Straw workers,	-	-	-	-	-	-	1	-	-	-	-	-	-
Tobacco,	-	-	-	-	-	-	1	-	-	-	-	-	-
Gas and electric companies,	5	2	2	-	4	-	13	5	-	5	2	-	-
Other miscellaneous industries and occupations, in "not specified" manufacturing and mechanical industries,	2	54	9	-	19	-	30	6	-	1	3	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	27	4	-	7	-	26	8	-	1	4	-	-
Water Transportation.													
Water transportation,	-	-	3	-	-	-	3	15	-	11	5	-	-

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.							Falling Material from Overhead.	FALLS.			
	EYE INJURIES — Con.								From Fixed Ladders.	Into Holes, Pits, etc.	Over Obstructions.	From Permanent Structures.
	Electric Flash.	Emery Wheels.	Flying Particles from Hand Tools.	Lubricator and Grease Glasses.	Machine Tools (including Portable Tools).	Molten Metal.	Miscellaneous.					
<i>Road, Street and Bridge Transportation.</i>												
Construction and maintenance of streets, roads, sewers, bridges, etc.,	2	1	67	1	8	-	85	165	-	37	30	10
Livery stables,	-	13	6	-	2	-	18	1	-	8	3	-
Truck, transfer, cab and hack companies,	42	40	31	1	5	5	102	30	-	26	23	3
Street railways,	5	20	70	1	31	5	109	60	2	15	33	8
Steam railroads,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Express Companies.</i>												
Express companies,	-	-	-	-	-	-	2	7	-	4	3	-
<i>Telegraph and Telephone.</i>												
Telegraph and telephone,	-	-	1	-	-	1	8	9	-	1	2	1
<i>Miscellaneous Transportation.</i>												
Other persons in transportation,	-	1	-	-	-	-	-	-	-	-	-	1
<i>Trade.</i>												
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	1	-	-	-	-
Real estate,	-	-	2	-	-	-	6	10	-	1	3	1
Wholesale and retail trade,	-	18	29	-	7	1	118	136	-	37	68	12
Warehouses and cold-storage plants,	-	2	-	-	-	-	4	8	-	-	2	1

	84	2,032	961	6	713	151	2,339	1,523	4	389	510	211
Total,												
Other persons in trade, Clerical assistants (industry, business or profession not specified),	-	-	-	-	-	-	-	2	1	-	-	1
Professional Service. Professional service (all kinds),	-	-	1	-	-	-	-	7	2	-	3	6
Domestic and Personal Service. Occupations not in industries, Laundries and laundry work,	1	2	3	-	-	1	21	9	-	5	10	7
	-	-	-	-	-	-	4	2	-	2	1	1

TABLE III. — Non-fatal Accidents, classified by Industries and by Causes, etc. — Continued.

INDUSTRIES.	CAUSE.										
	Falls — Cor.					Gears.	Glass.		HAND LABOR.		
	From Poles.	From or with Portable Ladders.	From Seafolding, etc.	Slipping on Floor Level.	Down Stairways.		Miscellaneous.	Bottles and Miscellaneous.	Win-dows.	Caught by Ma-terial.	Flying Particles from Ham-mering Tools.	Slivers, Sharp Edges, Corners, etc.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>											
Agriculture,	—	1	1	3	1	18	2	1	10	1	8
Forestry,	—	2	—	—	—	8	—	—	12	1	12
Animal husbandry,	—	—	—	1	1	6	—	—	8	—	9
Ice harvesting,	—	—	1	4	—	34	—	—	42	—	21
<i>Extraction of Minerals.</i>											
Mining,	—	—	—	—	—	—	—	—	1	—	—
Quarrying,	—	1	1	2	—	23	—	1	123	50	38
<i>Building Trades.</i>											
Building and hand trades,	4	201	423	55	57	484	39	19	1,355	60	671
<i>Chemical and Allied Products.</i>											
Fertilizer makers,	—	3	2	1	—	4	—	—	18	1	4
Paint makers,	—	—	1	3	—	3	—	—	11	—	6
Powder, cartridge, fireworks, etc., makers,	—	—	—	2	—	4	—	1	15	—	5
Soap makers,	—	1	—	1	1	1	—	—	5	1	7
Other chemical workers,	—	7	7	8	4	23	11	—	72	1	41
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	—	1	1	—	—	6	—	—	13	1	2
Potteries,	—	—	—	—	—	1	—	—	6	—	1

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	FALLS — Con.					Gears.	GLASS.		HAND LABOR.			
	From Poles.	From or with Portable Ladders.	From Scaffold, folding, etc.	Slipping on Floor Level.	Down Stairways.		Miscellaneous.	Bottles and Miscellaneous.	Windows.	Caught by Material.	Flying Particles from Hammering Tools.	Slivers, Sharp Edges, Corners, etc.
<i>Liquors and Beverages.</i>												
Breweries,	-	9	4	10	11	33	53	2	120	-	34	
Distilleries,	-	1	-	-	-	-	-	-	3	-	1	
Other liquor and beverage workers,	-	1	-	3	2	2	43	-	13	-	7	
<i>Lumber and its Remanufacture.</i>												
Box makers (wood),	-	1	-	4	2	16	-	-	33	-	41	
Furniture,	-	5	-	4	4	22	2	3	50	1	83	
Pianos and organs,	-	4	-	1	11	4	1	1	38	-	62	
Saw and planing mills,	-	1	-	6	-	13	1	-	43	1	39	
Other woodworkers,	-	4	2	4	9	29	20	5	102	3	101	
<i>Metal and Metal Products Other than Iron and Steel.</i>												
Brass mills,	-	-	-	-	2	2	1	1	7	-	23	
Clock factories,	-	-	1	-	-	1	-	-	-	1	3	
Copper factories,	-	-	-	1	-	1	-	-	9	2	8	
Gold and silver workers,	-	-	-	-	1	2	-	-	5	-	12	
Jewelry factories,	-	3	-	4	6	2	-	2	2	2	21	
Lead and zinc factories,	-	-	-	-	2	3	-	-	6	-	4	
Tin-plate factories,	-	1	1	1	1	3	-	2	8	-	40	
Watch factories,	-	-	-	2	1	4	-	-	2	1	1	
Brass and copper,	-	7	1	3	1	11	3	2	47	7	34	
Other metal workers,	-	-	-	6	1	-	-	-	42	2	79	
<i>Paper.</i>												
Box makers (paper),	-	3	-	-	4	-	-	-	11	-	8	
Makers of blank books, envelopes, tags, paper bags, etc.,	-	1	-	3	2	3	-	3	10	1	15	

Paper mills,	21	76	23	46	9	21	—	—	242
Pulp mills,	—	2	—	279	2	—	—	—	3
Other papers,	5	3	—	19	—	1	—	—	10
Printing and Bookbinding.	6	24	19	11	—	—	—	—	87
Printing and publishing establishments,	—	—	—	—	—	—	—	—	—
Textiles.	—	—	—	—	—	—	—	—	—
Carpet mills,	6	9	7	7	2	6	—	—	28
Cotton mills,	71	150	64	279	24	400	69	24	1,153
Dyeing and finishing textiles,	—	21	9	19	—	8	7	—	56
Hemp and jute mills,	3	11	1	6	3	10	1	—	31
Knitting mills,	2	15	4	6	—	10	3	—	52
Linen mills,	2	3	3	7	—	6	6	—	48
Print works,	9	20	2	12	—	12	4	—	74
Rope and cordage factories,	—	6	2	3	—	1	1	—	10
Sail, awning and tent makers,	3	2	2	3	—	—	—	—	3
Silk mills,	1	2	—	—	—	—	—	—	—
Woolen and worsted mills,	26	88	36	159	3	226	15	10	400
Not specified textile workers,	7	18	7	15	3	23	4	2	134
Miscellaneous Industries.	—	—	—	—	—	—	—	—	—
Broom and brush makers,	—	2	1	—	—	—	2	—	43
Button makers,	—	—	—	—	—	—	—	—	8
Cigars,	1	—	—	2	—	—	—	—	15
Electric light and power companies,	27	54	12	8	3	6	36	6	122
Electrical supplies,	17	39	6	4	3	13	20	7	188
Gas works,	9	64	17	11	3	8	6	15	130
Oil works,	—	1	2	—	—	—	—	—	83
Rubber factories,	9	37	15	38	5	7	6	3	3
Straw workers,	—	—	1	—	—	—	—	—	453
Tobacco,	1	—	—	—	—	—	—	—	1
Gas and electric companies,	6	18	4	3	3	—	—	1	29
Other miscellaneous industries and occupations,	5	30	7	8	2	6	84	—	99
Workers in "not specified" manufacturing and mechanical industries,	11	28	12	6	1	3	7	3	112
Water Transportation.	—	—	—	—	—	—	—	—	—
Water transportation,	13	90	4	17	12	—	1	2	395

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	FALLS — Con.						GLASS.		HAND LABOR.				
							Gears.	Bottles and Miscellaneous.	Win- dows.	Caught by Ma- terial.	Flying Particles from Ham- mering Tools.	Slivers, Sharp Edges, Corners, etc.	
	From Poles.	From or with Portable Ladders.	From Scaffold- folding, etc.	Slipping on Floor Level.	Down Stair- ways.	Miscel- laneous.							
<i>Liquors and Beverages.</i>													
Breweries,	—	9	4	10	11	33	53	2	120	—	34	—	84
Distilleries,	—	1	—	—	—	—	—	—	3	—	1	—	1
Other liquor and beverage workers,	—	1	—	3	2	2	43	—	13	—	7	—	7
<i>Lumber and its Remanufacture.</i>													
Box makers (wood),	—	1	—	4	2	16	—	—	33	—	41	—	41
Furniture,	—	5	—	4	4	22	2	3	50	1	83	—	83
Pianos and organs,	—	4	—	1	11	4	1	8	38	—	63	—	63
Saw and planing mills,	—	1	—	6	—	13	1	—	39	1	39	—	39
Other woodworkers,	—	4	2	4	9	29	20	5	102	8	101	—	101
<i>Metals and Metal Products Other than Iron and Steel.</i>													
Brass mills,	—	—	1	—	2	2	1	—	7	—	23	—	23
Clock factories,	—	—	—	—	—	1	—	—	—	1	3	—	3
Copper factories,	—	—	—	1	—	1	—	1	9	2	8	—	8
Gold and silver workers,	—	—	—	—	1	2	—	—	5	—	12	—	12
Jewelry factories,	—	3	—	4	6	2	—	2	3	2	21	—	21
Lead and zinc factories,	—	—	—	—	2	—	—	—	6	—	4	—	4
Tin-plate factories,	—	1	1	1	1	3	—	1	8	—	40	—	40
Watch factories,	—	—	—	1	1	—	—	—	2	—	1	—	1
Brass and copper,	—	7	1	2	1	4	—	1	47	7	34	—	34
Other metal workers,	—	—	—	6	1	11	3	2	42	2	79	—	79
<i>Paper.</i>													
Box makers (paper),	—	3	—	—	4	—	—	4	11	—	8	—	8
Makers of blank books, envelopes, tags, paper bags, etc.,	—	1	—	3	2	3	—	7	10	1	15	—	15

Paper mills,	21	9	46	23	76	21	6	3	175	3	242
Pulp mills,	5	-	3	-	2	-	1	-	10	-	3
Other papers,	5	-	-	-	3	1	2	1	15	-	10
<i>Printing and Bookbinding.</i>											
Printing and publishing establishments,	6	-	11	19	24	14	10	5	58	-	87
<i>Textiles.</i>											
Carpet mills,	6	3	7	-	9	7	-	2	18	-	28
Cotton mills,	71	24	279	64	150	400	60	65	553	24	1,153
Dyeing and finishing textiles,	7	19	19	9	21	8	7	4	59	-	56
Hemp and jute mills,	3	3	5	1	11	10	1	3	34	-	31
Knitting mills,	3	2	5	4	15	10	3	3	16	1	52
Linen mills,	2	-	7	3	3	6	6	3	15	1	48
Print works,	9	-	12	3	20	12	4	4	51	1	74
Rope and cordage factories,	3	-	3	2	6	1	1	-	4	-	10
Sail, awning and tent makers,	3	-	-	2	2	2	-	-	-	-	3
Silk mills,	1	2	-	-	4	5	-	3	11	-	21
Woolen and worsted mills,	26	9	159	36	88	236	15	26	220	10	400
Not specified textile workers,	7	3	15	7	18	38	4	3	49	2	134
<i>Miscellaneous Industries.</i>											
Broom and brush makers,	-	-	-	1	2	-	2	-	5	-	43
Button makers,	-	-	-	-	-	-	-	-	3	-	8
Cigars,	1	-	2	-	-	-	-	-	3	-	15
Electric light and power companies,	27	3	8	12	54	6	36	-	122	5	126
Electrical supplies,	17	2	4	6	39	13	20	1	188	7	130
Gas works,	9	2	11	17	64	3	6	1	148	15	53
Oil works,	-	2	-	2	1	-	-	-	3	-	3
Rubber factories,	9	5	38	15	37	7	6	3	395	3	433
Straw workers,	1	-	-	1	-	-	-	-	-	-	1
Tobacco,	-	-	-	-	-	-	-	-	-	-	-
Gas and electric companies,	6	3	3	4	18	-	-	-	58	1	29
Other miscellaneous industries and occupations, in "not specified" manufacturing and mechanical industries,	5	2	8	7	30	6	84	1	90	-	99
Workers in "not specified" manufacturing and mechanical industries,	11	1	6	12	28	3	7	7	71	3	112
<i>Water Transportation.</i>											
Water transportation,	13	12	17	4	90	-	1	1	395	2	108

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										HAND LABOR.				
	Falls — Con.					Gears.	Glass.		Caught by Material.	Flying Particles from Hammering Tools.					
	From Poles.	From or with Portable Ladders.	From Seafolding, etc.	Slipping on Floor Level.	Down Stairways.		Miscellaneous.	Bottles and Miscellaneous.						Windows.	
<i>Road, Street and Bridge Transportation.</i>															
Construction and maintenance of streets, roads, sewers, bridges, etc.,	4	22	28	25	13	241	9	20	2	828	62	233			
Livery stables,	—	3	—	3	2	10	1	1	1	4	—	9			
Truck, transfer, cab and hack companies,	—	5	3	13	17	67	3	7	1	320	3	93			
Street railways,	4	25	5	8	15	102	10	19	75	259	43	113			
Steam railroads,	1	31	14	13	11	235	5	24	10	813	75	366			
<i>Express Companies.</i>															
Express companies,	—	—	—	7	9	28	—	2	—	194	1	41			
<i>Telegraph and Telephone.</i>															
Telegraph and telephone,	17	12	—	5	19	20	—	5	1	25	1	21			
<i>Miscellaneous Transportation.</i>															
Other persons in transportation,	—	—	—	—	—	7	—	2	—	8	—	4			
<i>Trade.</i>															
Banking and brokerage,	—	2	—	1	2	3	—	1	1	1	—	1			
Insurance,	—	—	—	1	5	6	—	1	—	2	—	4			
Real estate,	—	16	6	14	25	16	2	6	6	20	—	27			
Wholesale and retail trade,	—	93	17	177	235	536	2	309	29	1,046	13	1,339			
Warehouses and cold-storage plants,	1	3	2	7	5	29	2	2	23	105	1	42			

Other persons in trade, Clerical assistants (industry, business or profession not specified),	-	1	-	-	-	3	10	1	3	2	7	-	13
<i>Professional Service.</i>													
Professional service (all kinds),	-	15	-	23	16	27	27	-	19	5	40	1	53
<i>Domestic and Personal Service.</i>													
Occupations not in industries,	-	42	2	90	86	53	53	1	89	11	105	1	302
Laundries and laundry work,	-	2	1	13	13	9	9	3	2	-	7	1	20
Total,	66	918	687	1,483	1,624	3,457	3,457	1,066	1,120	387	11,516	591	11,640

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										
	HAND LABOR — Con.		HOURS.			Illness.	Infection from Trivial Cuts, Burns, etc.	LAYERS.		Milling Ma- chines.	Miscel- laneous (Unclassi- fied).
	Strains from Lifting, etc.	Struck by Tools.	Break- ing Parts.	Falling Loads.	Miscel- laneous.			Wood- working.	Metal Work- ing.		
<i>Liquors and Beverages.</i>											
Breweries,	29	9	-	1	1	-	13	-	-	-	40
Distilleries,	-	2	-	-	-	-	1	-	-	-	1
Other liquor and beverage workers,	6	3	-	-	-	1	6	-	-	-	7
<i>Lumber and its Remanu,acture.</i>											
Box makers (wood),	9	13	2	-	-	-	11	1	1	1	11
Furniture,	20	23	-	2	-	-	27	4	4	5	20
Pianos and organs,	6	23	-	-	-	-	6	-	1	2	13
Saw and planing mills,	12	17	-	-	1	-	6	-	1	-	10
Other woodworkers,	14	47	1	-	1	1	45	-	37	11	28
<i>Metals and Metal Products Other than Iron and Steel.</i>											
Brass mills,	3	6	-	-	-	-	8	-	-	18	4
Clock factories,	-	-	-	-	-	-	1	-	-	2	-
Copper factories,	1	2	-	-	-	1	-	-	-	-	-
Gold and silver workers,	2	1	-	-	-	-	4	-	-	15	3
Jewelry factories,	3	9	-	-	-	-	7	-	-	19	6
Lead and zinc factories,	2	2	-	-	-	-	1	-	-	1	-
Tin-plate factories,	1	1	-	-	-	-	8	1	1	1	7
Watch factories,	1	2	-	-	-	1	1	-	1	1	7
Brass and copper,	6	6	1	1	1	1	6	-	-	1	1
Other metal workers,	10	14	-	2	2	1	20	-	-	10	14
<i>Paper.</i>											
Box makers (paper),	5	2	-	-	-	2	4	-	-	1	4
Makers of blank books, envelopes, tags, paper bags, etc.,	5	5	-	-	-	-	9	-	-	-	3

Paper mills,	60	41	2	2	3	57	1	1	7	68
Pulp mills,	7	3	1	1	1	7	1	1	1	1
Other papers,										5
Printing and Bookbinding.										
Printing and publishing establishments, . .	35	13	-	-	2	35	-	-	-	29
Textiles.										
Carpet mills,	13	2	5	1	10	5	1	1	3	11
Cotton mills,	168	114	6	6	3	165	1	1	32	316
Dyeing and finishing textiles,	26	12	1	1	3	14	-	-	4	45
Hemp and jute mills,	13	13	-	-	-	56	-	-	4	15
Knitting mills,	5	5	-	-	-	7	-	-	2	15
Linen mills,	5	1	-	-	5	7	-	-	4	7
Print works,	18	21	-	-	-	9	-	-	7	30
Rope and cordage factories,	4	-	2	2	-	4	-	-	-	6
Sail, awning and tent makers,	4	1	-	-	-	2	-	-	-	-
Silk mills,	1	4	1	1	-	1	-	-	-	10
Woolen and worsted mills,	109	65	1	1	5	106	-	-	16	174
Not specified textile workers,	11	12	1	1	-	21	-	-	2	21
Miscellaneous Industries.										
Broom and brush makers,	2	4	-	-	-	2	-	-	1	4
Button makers,	-	5	-	-	-	4	-	-	2	-
Cigars,	1	-	-	-	-	2	-	-	1	1
Electric light and power companies, . .	32	68	-	-	7	11	-	-	-	92
Electrical supplies,	79	57	-	-	3	87	-	-	39	61
Gas works,	30	79	-	2	14	18	1	1	-	94
Oil works,	6	2	-	6	1	1	-	-	-	4
Rubber factories,	89	60	-	3	8	57	-	-	14	104
Straw workers,	-	1	-	-	-	3	-	-	-	1
Tobacco,	-	1	-	-	-	-	-	-	-	-
Gas and electric companies,	15	32	-	3	3	8	-	-	-	29
Other miscellaneous industries and occupa-										
tions,	19	33	-	1	2	77	-	-	15	28
Workers in "not specified" manufacturing										
and mechanical industries,	25	30	-	1	-	37	1	1	17	34
Water Transportation.										
Water transportation,	33	21	2	20	55	16	-	-	-	116

Other persons in trade, Clerical assistants (industry, business or profession not specified),	11	2	-	1	-	-	4	-	-	-	-	-	9
Professional Service.	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional services (all kinds),	25	16	-	-	1	-	33	-	-	-	-	-	33
Domestic and Personal Service.	-	-	-	-	-	-	-	-	-	-	-	-	-
Occupations not in industries,	43	28	1	-	1	8	100	-	-	-	-	-	173
Laundries and laundry work,	12	2	-	-	-	-	18	-	-	-	-	-	19
Total,	3,096	4,107	64	186	394	186	3,572	9	68	801	256	5,025	

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.													
	NAME.		Planers (Metal).	Playing and Fooling.	Portable Tools (Other than Rock Drills).	PRESSES.			RAILROAD EQUIPMENT.					
	In Boxes, Barrels or Objects.	On Floor or Ground.				Drill Presses.	Print- ing.	Punch and Drop and Miscel- laneous Presses.	Caught in Frogs, Switches, etc.	Coup- ling or Un- coupling Cars.	Falls from Cars or Loco- motives.	Falls from Trestles.		
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>														
Agriculture,	6	3	-	-	-	-	-	-	-	-	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Ice harvesting,	1	1	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mining, Extraction of Minerals.</i>														
Mining,	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Quarrying,	1	3	-	-	-	-	-	-	-	-	-	2	-	-
<i>Building Trades.</i>														
Building and hand trades,	368	815	-	-	14	-	-	-	-	-	1	1	1	1
<i>Chemical and Allied Products.</i>														
Fertiliser makers,	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Paint makers,	3	1	-	-	-	-	1	1	9	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	3	4	-	-	-	1	-	-	3	-	-	-	-	-
Soap makers,	2	-	-	-	-	-	-	-	2	-	-	-	-	-
Other chemical workers,	21	18	-	-	-	-	-	-	5	3	1	-	-	-
<i>Clay, Glass and Stone Products.</i>														
Brick makers,	-	1	-	-	-	-	-	-	-	6	-	-	-	-
Potteries,	-	1	-	-	-	-	-	-	-	1	-	-	-	-

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	NAIJS.		PRESSSES.					RAILROAD EQUIPMENT.				
	In Boxes, Barrels or Objects.	On Floor or Ground.	Planors (Metal).	Playing and Fooling.	Portable Tools (Other than Rock Drills).	Drill Presses.	Print-ing.	Punch and Drop and Miscel-laneous Presses.	Caught in Frogs, Switches, etc.	Coup-ling or Un-coupling Cars.	Falls from Cars or Loco-motives.	Falls from Trestles.
<i>Liquors and Beverages.</i>												
Breweries,	8	4	-	-	-	-	-	-	-	-	1	-
Distilleries,	-	-	-	-	-	-	-	-	-	-	-	-
Other liquor and beverage workers,	3	1	-	-	-	-	-	1	-	-	-	-
<i>Lumber and its Remanufacture.</i>												
Box makers (wood),	7	5	-	-	-	-	2	1	-	-	-	-
Furniture,	16	8	1	-	-	3	-	12	-	-	-	-
Pianos and organs,	5	7	-	-	-	1	1	3	-	-	-	-
Saw and planing mills,	-	1	-	-	-	-	-	-	-	-	-	-
Other wood workers,	6	17	3	-	-	2	1	9	-	-	1	-
<i>Metals and Metal Products Other than Iron and Steel.</i>												
Brass mills,	3	1	-	-	-	-	-	12	-	-	-	-
Clock factories,	-	-	-	-	-	-	-	1	-	-	-	-
Copper factories,	-	-	-	-	-	-	-	12	-	-	-	-
Gold and silver workers,	1	1	1	-	-	-	-	70	-	-	-	-
Jewelry factories,	-	-	-	-	-	-	-	1	-	-	-	-
Lead and zinc factories,	-	5	-	-	-	-	1	36	-	-	-	-
Tin-plate factories,	-	-	-	-	-	-	-	1	-	-	-	-
Watch factories,	1	-	-	-	-	-	-	1	-	-	-	-
Brass and copper,	4	11	-	-	-	2	-	83	-	-	-	-
Other metal workers,												
<i>Paper.</i>												
Box makers (paper),	6	3	-	-	-	-	8	3	-	-	-	-
Makers of blank books, envelopes, tags, paper bags, etc.,	1	6	1	-	-	-	8	13	-	-	-	-

Paper mills,	14	56	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
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TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										RAILROAD EQUIPMENT.		
	NAMES.		Placers (Metal).	Playing and Fooling.	Portable Tools (Other than Rock Drills).	PRESSES.			Caught in Frogs, Switches, etc.	Coupling or Un- coupling Cars.	Falls from Cars or Loco- motives.	Falls from Trestles.	
	In Boxes, Barrels or Objects.	On Floor or Ground.				Drill Presses.	Print- ing.	Punch and Drop and Miscel- laneous Presses.					
<i>Road, Street and Bridge Transportation.</i>													
Construction and maintenance of streets, roads, sewers, bridges, etc.,	92	190	1	-	19	-	1	-	-	7	9	16	
Livery stables,	-	2	-	1	-	-	-	3	-	-	2	-	
Truck, transfer, cab and hack companies, Street railways,	14 24	30 24	1 1	1 1	1 10	3 6	-	2	16	53	7 187	3	
Steam railroads,	31	78	6	-	-	-	-	2	-	-	-	-	
<i>Express Companies.</i>													
Express companies,	20	11	-	-	-	-	-	-	-	-	3	-	
<i>Telegraph and Telephone.</i>													
Telegraph and telephone,	3	3	-	-	-	-	-	-	-	-	1	-	
<i>Miscellaneous Transportation.</i>													
Other persons in transportation,	1	-	-	-	-	-	-	-	-	-	-	-	
<i>Trade.</i>													
Banking and brokerage,	-	3	-	-	-	-	-	1	-	-	-	-	
Insurance,	-	11	-	-	-	-	-	3	-	-	-	-	
Real estate,	6	237	-	-	1	1	6	12	-	-	6	1	
Wholesale and retail trade,	237	267	-	-	1	1	-	-	-	-	-	-	
Warehouses and cold-storage plants, . .	8	16	-	-	-	-	-	-	-	-	-	-	

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	RAILROAD EQUIPMENT — Con.					Shaft- ing, Set Screws, Coupl- ings, etc.	VEHICLES.			Wood Molders, Shapers, Mortis- ing Ma- chines, etc.	Acci- dents caused by Ma- chinery Pecu- liar to Special Indus- tries.	
	Hoisting and convey- ing Outfits.	Struck or run over by Car or Loco- motive.	Colli- sions.	Miscel- laneous.	Saws.		Animal- drawn.	Self- pro- pelled.	Trucks, Wheel- barrows, etc.			Colli- sions between Vehicles.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>												
Agriculture,	-	-	-	-	1	1	16	1	-	-	-	2
Forestry,	-	-	-	-	5	-	1	-	-	-	1	2
Animal husbandry,	-	-	-	-	-	1	2	1	1	-	-	2
Ice harvesting,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Mining, Extraction of Minerals.</i>												
Mining,	-	-	-	-	-	3	5	6	2	-	-	5
Quarrying,	-	-	1	1	-	-	-	-	-	-	-	-
<i>Building Trades.</i>												
Building and hand trades,	-	1	-	5	86	8	139	54	62	8	25	67
<i>Chemical and Allied Products.</i>												
Fertiliser makers,	-	-	-	-	-	1	4	-	4	1	-	2
Paint makers,	-	-	-	-	-	-	-	-	1	-	-	1
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	1	1	1	37
Soap makers,	-	-	-	-	3	2	4	-	10	-	-	4
Other chemical workers,	-	-	-	1	-	-	-	-	-	-	-	16
<i>Clay, Glass and Stone Products.</i>												
Brick makers,	-	-	1	-	1	-	4	-	5	-	-	1
Potteries,	-	-	-	-	-	-	4	1	2	-	-	2

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										Acci- dents caused by Ma- chinery Peo- liar to Special Indus- tries.	
	RAILROAD EQUIPMENT — Con.				Saws.	Shaft- ing, Set Cou- plings, etc.	VEHICLES.			Wood Molders, Shapers, Mortis- ing Ma- chines, etc.		
	Holting and convey- ing Outfits.	Struck or run over by Car or Loco- motive.	Colli- sions.	Miscel- laneous.			Animal- drawn.	Self- pro- pelled.	Trucks, Wheel- barrows, etc.			Colli- sions between Vehicles.
<i>Liquors and Beverages.</i>												
Breweries,	-	-	-	-	-	-	1	35	16	5	2	21
Distilleries,	-	-	-	-	-	-	-	6	4	1	1	19
Other liquor and beverage workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Lumber and its Remanufacture.</i>												
Box makers (wood),	-	-	-	-	-	100	1	6	3	11	1	22
Furniture,	-	-	-	-	-	95	7	13	4	20	-	53
Pianos and organs,	-	-	-	-	-	68	3	1	-	4	-	30
Saw and planing mills,	-	-	-	-	-	56	3	13	-	3	-	8
Other woodworkers,	-	-	-	-	-	178	6	20	3	9	-	64
<i>Metals and Metal Products Other than Iron and Steel.</i>												
Brass mills,	-	-	-	-	-	4	2	1	1	-	-	14
Clock factories,	-	-	-	-	-	2	-	-	-	-	-	3
Copper factories,	-	-	-	-	-	4	1	-	-	1	-	7
Gold and silver workers,	-	-	-	-	-	13	1	-	-	-	1	28
Jewelry factories,	-	-	-	-	-	-	-	-	-	-	-	2
Lead and zinc factories,	-	-	-	-	-	2	1	-	-	5	-	27
Tin-plate factories,	-	-	-	-	-	1	1	-	-	-	-	2
Watch factories,	-	-	-	-	-	4	-	1	-	5	-	5
Brass and copper,	-	1	-	-	-	5	3	-	1	1	-	34
Other metal workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Paper.</i>												
Box makers (paper),	-	-	-	-	-	5	3	2	1	2	-	109
Makers of blank books, envelopes, tags, paper bags, etc.,	-	-	-	-	-	4	1	-	-	3	-	59

Paper mills,	2	37	44	9	5	51	-	10	217
Pulp mills,	-	3	5	1	-	1	-	4	3
Other papers,	-	5	2	2	-	3	-	-	49
<i>Printing and Bookbinding.</i>									
Printing and publishing establishments, . .	-	26	5	6	7	20	1	-	124
<i>Textiles.</i>									
Carpet mills,	-	-	5	2	1	6	2	13	119
Cotton mills,	1	40	199	19	7	122	3	3	1,776
Dyeing and finishing textiles,	-	2	11	-	1	13	1	3	120
Hemp and jute mills,	-	3	3	-	-	6	-	2	100
Knitting mills,	-	-	11	1	1	2	-	1	123
Linen mills,	-	6	7	1	1	4	-	1	38
Print works,	-	3	3	2	-	1	-	-	85
Rope and cordage factories,	-	-	3	-	-	-	-	-	33
Sail, awning and tent makers,	-	-	-	-	-	-	-	-	1
Silk mills,	-	3	3	1	1	-	-	-	26
Woolen and worsted mills,	-	26	73	10	7	85	-	8	903
Not specified textile workers,	-	2	7	2	1	8	-	-	161
<i>Miscellaneous Industries.</i>									
Broom and brush makers,	-	4	1	-	-	1	-	1	17
Button makers,	-	19	-	-	-	-	-	-	20
Cigars,	-	-	-	-	-	-	-	-	2
Electric light and power companies, . .	-	5	3	16	42	7	3	1	14
Electrical supplies,	1	31	9	2	6	24	3	6	86
Gas works,	1	2	2	22	24	18	3	-	6
Oil works,	-	-	-	1	-	-	-	-	-
Rubber factories,	2	10	20	2	9	102	-	4	239
Straw workers,	-	2	-	-	-	-	-	-	7
Tobacco,	-	-	-	-	-	-	-	-	1
Gas and electric companies,	-	3	-	7	5	3	1	1	6
Other miscellaneous industries and occupa- tions,	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	85	8	3	2	4	-	14	129
<i>Water Transportation.</i>									
Water transportation,	-	20	9	7	4	10	-	9	110
	1	2	1	11	3	107	3	-	1

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

[illegible]

	1	-	-	-	1	-	-	-	12	8	1	-	-	2
Other persons in trade,	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Clerical assistants (industry, business or profession not specified),	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Professional Service.</i>														
Professional service (all kinds),	-	-	-	-	-	7	-	-	6	7	1	-	1	30
<i>Domestic and Personal Service.</i>														
Occupations not in industries,	-	-	-	-	-	3	1	9	9	11	3	3	-	70
Laundries and laundry work,	-	-	-	-	-	-	-	24	24	5	3	2	-	48
Total,	1	80	60	460	1,410	664	1,865	991	1,438	181	623	8,676		

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

[illegible]

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc. — Continued.*

INDUSTRIES.	CAUSE.												
	STREET RAILWAYS.												
	Caught between Cars (Other than while coupling).	Caught between Car and Fixture.	Collisions between Cars.	Collisions between Car and Vehicle.	Coupling Cars.	Derailment.	Falls from Cars (Other than off Running Boards).	F r o g s, Switches, etc. (Foot caught).	Lane Work, Tower Apparatus.	Pit Room Accidents.	Running Boards (lost Hold).	Running Boards (struck by Obstruction).	Struck or run over by Car.
<i>Liquors and Beverages.</i>													
Breweries,	1	1	1	1	1	1	1	1	1	1	1	1	1
Distilleries,	1	1	1	1	1	1	1	1	1	1	1	1	1
Other liquor and beverage workers,	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Lumber and its Manufacture.</i>													
Box makers (wood),	1	1	1	1	1	1	1	1	1	1	1	1	1
Furniture,	1	1	1	1	1	1	1	1	1	1	1	1	1
Pianos and organs,	1	1	1	1	1	1	1	1	1	1	1	1	1
Saw and planing mills,	1	1	1	1	1	1	1	1	1	1	1	1	1
Other woodworkers,	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Metals and Metal Products Other than Iron and Steel.</i>													
Brass mills,	1	1	1	1	1	1	1	1	1	1	1	1	1
Clock factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Copper factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Gold and silver workers,	1	1	1	1	1	1	1	1	1	1	1	1	1
Jewelry factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Lead and zinc factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Tin-plate factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Watch factories,	1	1	1	1	1	1	1	1	1	1	1	1	1
Brass and copper,	1	1	1	1	1	1	1	1	1	1	1	1	1
Other metal workers,	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Miscellaneous.</i>													
Track Work, handling Rails, etc.,	1	1	1	1	1	1	1	1	1	1	1	1	1
Struck or run over by Car,	1	1	1	1	1	1	1	1	1	1	1	1	1
Running Boards (struck by Obstruction),	1	1	1	1	1	1	1	1	1	1	1	1	1
Running Boards (lost Hold),	1	1	1	1	1	1	1	1	1	1	1	1	1
Pit Room Accidents,	1	1	1	1	1	1	1	1	1	1	1	1	1
Lane Work, Tower Apparatus,	1	1	1	1	1	1	1	1	1	1	1	1	1
F r o g s, Switches, etc. (Foot caught),	1	1	1	1	1	1	1	1	1	1	1	1	1
Falls from Cars (Other than off Running Boards),	1	1	1	1	1	1	1	1	1	1	1	1	1
Derailment,	1	1	1	1	1	1	1	1	1	1	1	1	1
Coupling Cars,	1	1	1	1	1	1	1	1	1	1	1	1	1
Collisions between Car and Vehicle,	1	1	1	1	1	1	1	1	1	1	1	1	1
Collisions between Cars,	1	1	1	1	1	1	1	1	1	1	1	1	1

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc. — Continued.*

INDUSTRIES.	CAUSE.					
	HARMFUL SUBSTANCES (CAUSING CONSTITUTIONAL DISTURBANCES).					
	Arsonic.	Dusts.	Gases, Vapors and Fumes.	Hides (Anthrax).	Lead.	Miscellaneous.
Agriculture, Forestry, Animal Husbandry and Ice Harvesting.	1	1	1	1	15	2
	1	1	1	1	1	1
Agriculture, Forestry, Animal Husbandry, Ice harvesting.	1	1	1	1	1	1
	1	1	1	1	1	1
Mining, Quarrying, Extraction of Minerals.	1	1	1	1	1	1
	1	1	1	1	1	1
Building Trades.	1	1	1	1	1	1
	1	1	1	1	1	1
Building and hand trades.	1	1	1	1	1	1
	1	1	1	1	1	1
Chemical and Allied Products.	1	1	1	1	1	1
	1	1	1	1	1	1
Fertilizer makers.	1	1	1	1	1	1
	1	1	1	1	1	1
Paint makers.	1	1	1	1	1	1
	1	1	1	1	1	1
Powder, cartridge, fireworks, etc., makers.	1	1	1	1	1	1
	1	1	1	1	1	1
Soap makers.	1	1	1	1	1	1
	1	1	1	1	1	1
Other chemical workers.	1	1	1	1	1	1
	1	1	1	1	1	1
Miscellaneous.	1	1	1	1	1	1
	1	1	1	1	1	1
Extreme Cold.	1	1	1	1	1	1
	1	1	1	1	1	1
Extreme Heat.	1	1	1	1	1	1
	1	1	1	1	1	1
Eye Strain.	1	1	1	1	1	1
	1	1	1	1	1	1
Strain, Fatigue, Cramp, Faulty Positions, "Oooc", Paternal Nerves, etc., Vibration, Pressure, etc., causing Injuries to Nerves, Muscles and Bones.	1	1	1	1	1	1
	1	1	1	1	1	1

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

[illegible]

[illegible]

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										
	HARMFUL SUBSTANCES (CAUSING CONSTITUTIONAL DISTURBANCES).						HARMFUL CONDITIONS.				
	Arsenic.	Dusts.	Gases, Vapors and Fumes.	Hides (Anthrax).	Lead.	Miscellaneous.	Extreme Cold.	Extreme Heat.	Eye Strain.	Strain, Fatigue, Cramp, Faulty Positions, "Douches," Vibrations, Pressures, etc., causing Injuries to Nerves, Muscles and Bones.	Miscellaneous.
Water Transportation.	1	1	1	1	1	1	1	1	1	1	1
Road, Street and Bridge Transportation.											
Construction and maintenance of streets, roads, sewers, bridges, etc.,		1					2	1		1	1
Livery stables,	1						2	1		1	1
Truck, transfer, cab and hack companies,	1		1				2	1		1	1
Street railways,	1						2				1
Steam railroads,	1						2				1
Express Companies.	1						1				1
Express companies,	1						1				1
Telegraph and Telephone.	1						1				1
Telegraph and telephone,	1						1				1
Miscellaneous Transportation.	1						1	2			1
Other persons in transportation,	1						1				1

	2	6	24	8	46	4	40	48	10	63	2
<i>Trade.</i>											
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	1	-	-	-	-	1	-
Real estate,	-	-	-	-	2	-	5	5	-	1	-
Wholesale and retail trade,	-	-	-	-	-	-	3	1	-	-	-
Warehouses and cold-storage plants,	-	-	-	3	-	-	1	-	-	-	-
Other persons in trade,	-	-	-	-	-	-	-	-	-	-	-
Clerical assistants (industry, business or profession not specified),	-	-	-	-	-	-	-	-	-	-	-
<i>Professional Service.</i>											
Professional service (all kinds),	-	-	-	-	-	-	-	-	-	1	-
<i>Domestic and Personal Service.</i>											
Occupations not in industries,	-	-	1	-	-	-	-	1	-	1	-
Laundries and laundry work,	-	-	-	-	-	-	1	-	-	1	-
Total,	2	6	24	8	46	4	40	48	10	63	2

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.													Totals.	
	IRRITANT FLUIDS AND SUBSTANCES (CAUSING LOCAL AFFECTIONS).														
	Brass.	Cement.	Chrome.	Cyanide and Plating Solutions.	Dyes.	Hides.	Lime.	Oil.	Paint.	Poisonous Vines, Trees, Shrubs, etc.	Raw Wool	Washing and Cleaning Fluids.	Local Irritation from Constant Vibration, Blows, Pressure, etc.		Miscellaneous.
Agriculture, Forestry, Animal Husbandry and Ice Harvesting.															119
Agriculture,															125
Forestry,															51
Animal husbandry,															145
Ice harvesting,															
Extraction of Minerals.															2
Mining,															492
Quarrying,															
Building Trades.															
Building and hand trades,		3								6			3		8,444
Chemical and Allied Products.															
Fertiliser makers,															89
Paint makers,															82
Powder, cartridge, fireworks, etc., makers,														1	139
Soap makers,															88
Other chemical workers,														3	490
Clay, Glass and Stone Products.															
Brick makers,															92
Potteries,													4		27

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.													Totals.
	IRRITANT FLUIDS AND SUBSTANCES (CAUSING LOCAL AFFECTIONS).													
	Brass.	Cement.	Chrome.	Cyanide and Plating Solutions.	Dyes.	Hides.	Lime.	Oil.	Paint.	Poisonous Vines, Trees, Shrubs, etc.	Raw Wool.	Washing and Cleansing Fluids.	Local Irritation from Constant Vibration, Blows, Pressure, etc.	Miscellaneous.
<i>Liquors and Beverages.</i>														
Breweries,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Distilleries,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other liquor and beverage workers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Lumber and its Remanufacture.</i>														
Box makers (wood),	1	1	1	1	1	1	1	1	1	1	1	1	1	13
Furniture,	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Pianos and organs,	1	1	1	1	1	1	1	1	1	1	1	1	1	3
Saw and planing mills,	1	1	1	1	1	1	1	1	1	1	1	1	1	2
Other woodworkers,	1	1	1	1	1	1	1	1	1	1	1	1	1	3
<i>Metals and Metal Products Other than Iron and Steel.</i>														
Brass mills,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Clock factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Copper factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gold and silver workers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Jewelry factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lead and zinc factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tin-plate factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Watch factories,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Brass and copper,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other metal workers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	1	1	1	1	1	1	1	1	1					

TABLE III. — *Non-fatal Accidents, classified by Industries and by Causes, etc. — Concluded.*

INDUSTRIES.	CAUSE.														Totals.
	IRRITANT FLUIDS AND SUBSTANCES (CAUSING LOCAL AFFECTIONS).														
	Brass.	Cement.	Chrome.	Cyanide and Plating Solutions.	Dyes.	Hides.	Lime.	Oil.	Paint.	Poisonous Vines, Trees, Shrubs, etc.	Raw Wool.	Washing and Cleansing Fluids.	Local Irritation from Constant Vibration, Blows, Pressure, etc.	Miscellaneous.	
Road, Street and Bridge Transportation. Construction and maintenance of streets, roads, sewers, bridges, etc., . . . Livery stables, . . . Truck, transfer, cab and hack companies . Street railways, . . . Steam railroads, . . .	4 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	1 1 1 1 1	16 1 1 1 1	1 1 1 1 1	1 1 1 1 1	5 1 1 1 1	2 1 4 1 1	4,146 182 1,642 2,773 4,062
Express companies. <i>Express Companies.</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	760
Telegraph and telephone. <i>Telegraph and Telephone.</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	303
Miscellaneous Transportation. Other persons in transportation, <i>Trade.</i>	1	1	1	1	1	1	1	1	1	1	1	1	1	1	60
Banking and brokerage, Insurance, . . . Real estate, Wholesale and retail trade,	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	1 1 1 1	28 49 324 9,373

TABLE IV.—*Fatal Accidents, classified by Industries and by Causes, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	CAUSE.											
	Animals, Insects, etc.	Asphyxiation, Drowning, Immersion, etc.	Assault and Fighting.	BELTING.			BURNS.					
				Shifting by Stick or Hand, etc.	Caught between Belt and Pulley (not while shifting).	Contact with Running Belt (not while shifting).	Chemical.	Fire.	Hot Objects.	Steam, Hot Liquids, etc.		
<i>Agriculture, Forestry and Animal Husbandry.</i>												
Agriculture,	-	-	-	-	-	-	-	-	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	1	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>												
Quarrying,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Building Trades.</i>												
Building and hand trades,	-	-	-	-	-	-	-	-	2	-	-	-
<i>Chemical and Allied Products.</i>												
Paint makers,	-	-	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>												
Tile makers,	-	-	-	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>												
Fish curers and packers,	-	-	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	1	-	-	-	-	-	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-	-	-

TABLE IV. — Fatal Accidents, classified by Industries and by Causes, etc. — Continued.

INDUSTRIES.	CAUSE.					
	Ani- male, In- sects, etc.	Asphyx- iation, Drown- ing, Immer- sion, etc.	BELTING.			BURNS.
			Shift- ing by Stick or Hand, etc.	Caught between Belt and Pulley (not while shift- ing).	Contact with Running Belt (not while shift- ing).	
<i>Miscellaneous Industries — Con.</i>						
Gas works,	-	-	-	1	-	-
Rubber factories,	-	-	-	-	-	-
Straw workers,	-	-	-	-	-	-
Cable and electric companies,	-	-	-	-	-	-
Other miscellaneous industries and occupations,	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical indus- tries,	-	-	-	-	-	-
<i>Water Transportation.</i>						
Water transportation,	-	1	-	-	-	-
<i>Road, Street and Bridge Transportation.</i>						
Construction and maintenance of streets, roads, sewers, bridges, etc.,	-	4	-	-	-	-
Livery stables,	2	-	-	-	-	-
Truck, transfer, cab and hack companies,	-	1	-	-	-	-
Street railways,	-	2	-	-	-	1
Steam railroads,	-	-	-	-	-	-
<i>Express Companies.</i>						
Express companies,	-	-	-	-	-	-
<i>Telegraph and Telephone.</i>						
Telegraph and telephone,	-	-	-	-	-	-

[illegible]

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	CRANES.		ELECTRICITY.		ELEVATORS.					
	Caught in Moving Parts.	Struck by Load.	Flashes and Short Circuits.	Shocks.	Caught between Car and Shaft.	Caught Underneath or on Top of Car.	Falling Car.	Falling down Shaft (Person).	Struck by Falling Object.	Miscellaneous.
<i>Agriculture, Forestry and Animal Husbandry.</i>										
Agriculture,	-	-	-	-	-	-	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>										
Quarrying,	-	-	-	-	-	-	-	-	-	-
<i>Building Trades.</i>										
Building and hand trades,	-	-	2	-	-	-	-	1	-	-
<i>Chemical and Allied Products.</i>										
Paint makers,	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>										
Tile makers,	-	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>										
Fish cavers and packers,	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	2	-	-	1	-	-

Iron and Steel and their Products.

Car and railroad shops,
 Foundries and metal working,
 Iron and steel mills,
 Ship and boat building,
 Other iron and steel workers,

Leather and its Finished Products.

Leather belt, leather case and pocketbook makers,
 Shoes,
 Tanneries,

Liquors and Beverages.

Breweries,

Lumber and its Remanufacture.

Box makers (wood),
 Furniture,
 Pianos and organs,
 Saw and planing mills,
 Other woodworkers,

Metal and Metal Products Other than Iron and Steel.

Other metal workers,

Paper.

Paper mills,
 Other papers,

Printing and Bookbinding.

Printing and publishing establishments,

Textiles.

Cotton mills,
 Dyeing and finishing textiles,
 Rope and cordage factories,
 Woolen and worsted mills,
 Not specified textile workers,

Miscellaneous Industries.

Electric light and power companies,
 Electrical supplies,

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	CRANES.		ELECTRICITY.		ELEVATORS.					
	Caught in Moving Parts.	Struck by Load.	Flashes and Short Circuits.	Shocks.	Caught between Car and Shaft.	Caught Underneath or on Top of Car.	Falling Car.	Falling down Shaft (Person).	Struck by Falling Object.	Miscellaneous.
<i>Miscellaneous Industries — Con.</i>										
Gas works,	-	-	-	-	-	-	-	-	-	-
Rubber factories,	-	-	-	-	-	-	-	-	-	-
Straw workers,	-	-	-	-	-	-	-	-	-	-
Gas and electric companies,	-	-	-	1	-	-	-	-	-	-
Other miscellaneous industries and occupations,	-	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	-	-	-	-	-	-	-	-	-
<i>Water Transportation.</i>										
Water transportation,	-	-	-	-	-	-	-	-	-	-
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	1	-	-	-	-	-	-	-	-
Livery stables,	-	-	-	-	-	-	-	-	-	-
Truck, transfer, cab and hack companies,	-	-	-	-	-	-	-	-	-	-
Street railways,	-	1	-	1	-	-	-	-	-	-
Steam railroads,	-	-	-	2	-	-	-	-	-	-
<i>Express Companies.</i>										
Express companies,	-	-	-	-	-	-	-	1	-	-
<i>Telegraph and Telephone.</i>										
Telegraph and telephone,	-	-	1	1	-	-	-	-	-	-

	1	2	4	10	8	2	1	11	1	3
<i>Miscellaneous Transportation.</i>										
Other persons in transportation,	-	-	-	-	-	-	-	-	-	-
<i>Trade.</i>										
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	1	-	-
Real estate,	-	-	-	-	-	-	-	1	-	-
Wholesale and retail trade,	-	-	-	-	1	1	1	1	-	1
Warehouses and cold-storage plants,	-	-	-	-	1	-	-	3	-	-
Other persons in trade,	-	-	-	-	-	-	-	1	-	-
<i>Professional Service.</i>										
Professional service (all kinds),	-	-	-	-	-	-	-	-	-	-
<i>Domestic and Personal Service.</i>										
Occupations not in industries,	-	-	-	-	-	-	-	-	-	-
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-
Total,	1	2	4	10	8	2	1	11	1	3

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.								
	ENGINEER.		EXCAVATION.		Explo- sions (Other than Boilers).	Falling Material from Over- head.	FALLS.		
	Caught in or struck by Moving Parts.	Miscel- laneous.	Blasting and Drilling.	Cave-in.			Into Holes, Pits, etc.	From Per- manent Struc- tures.	From Poles.	From or with Portable Ladders.
<i>Agriculture, Forestry and Animal Husbandry.</i>									
Agriculture,	-	-	-	-	-	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-
<i>Quarrying.</i>	-	-	-	-	-	1	2	-	-
<i>Extraction of Minerals.</i>									
<i>Building Trades.</i>	-	-	1	2	-	-	4	9	1
<i>Building and hand trades.</i>	-	-	-	-	-	-	-	-	-
<i>Chemical and Allied Products.</i>	-	-	-	-	-	-	-	-	-
Paint makers,	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	1	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>									
Tile makers,	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>									
Fish curers and packers,	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-

[illegible]

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.								
	ENGINEER.		EXCAVATION.		Explosions (Other than Boilers).	Falling Material from Over- head.	FALLS.		
	Caught in or struck by Moving Parts.	Miscel- laneous.	Blasting and Drilling.	Cave-in.			Into Holes, Pits, etc.	From Per- manent Struc- tures.	From Poles.	From or with Portable Ladders.
<i>Miscellaneous Industries — Con.</i>									
Gas works,	-	-	-	-	-	-	-	-	-
Rubber factories,	-	-	-	-	-	-	-	-	-
Straw workers,	-	-	-	-	-	-	-	-	-
Gas and electric companies,	-	-	-	-	-	-	-	-	-
Other miscellaneous industries and occupations,	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical in- dustries,	-	-	-	-	-	-	-	-	-
<i>Water Transportation.</i>									
Water transportation,	-	-	-	-	-	-	1	-	-
<i>Road, Street and Bridge Transportation.</i>									
Construction and maintenance of streets, roads, sewers, bridges, etc.,	-	-	1	3	-	1	1	-	1
Livery stables,	-	-	-	-	-	-	-	-	-
Truck, transfer, cab and hack companies,	-	-	-	2	-	1	-	-	-
Street railways,	-	-	-	-	-	-	-	-	-
Stream railroads,	-	-	-	-	-	-	1	-	-
<i>Express Companies.</i>									
Express companies,	-	-	-	-	-	-	-	-	-
<i>Telegraph and Telephone.</i>									
Telegraph and telephone,	-	-	-	-	-	-	-	-	-

[illegible]

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.											
	FALLS — Con.			Gears.	HAND LABOR.			HOISTS.				
	From Seat- folding, etc.	Slipping on Floor Level.	Down Stair- ways.		Miscel- laneous.	Caught by Ma- terials.	Slivers, Sharp Edges, Corners, etc.	Strains from Lifting, etc.	Struck by Tools.	Break- ing Parts.	Falling Loads.	Miscel- laneous.
<i>Agriculture, Forestry and Animal Hus- bandry.</i>												
Agriculture,	-	-	-	-	1	-	-	-	-	-	-	-
Forestry,	-	-	-	-	1	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>												
Quarrying,	-	-	-	-	1	-	-	-	-	1	-	-
<i>Building Trades.</i>												
Building and hand trades,	15	-	1	5	2	-	-	-	-	1	-	-
<i>Chemical and Allied Products.</i>												
Paint makers,	-	-	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>												
Tile makers,	1	-	-	-	1	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>												
Fish curers and packers,	-	-	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	-	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	1	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-	-	-

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	FALLS — Con.				Gears.	HAND LABOR.				HOISTS.
	From Scaffolding, etc.	Slipping on Floor Level.	Down Stairways.	Miscellaneous.		Caught by Materials.	Silvers, Sharp Edges, Corners, etc.	Strains from Lifting, etc.	Struck by Tools.	
<i>Miscellaneous Industries — Con.</i>										
Gas works,	1	-	-	-	-	1	-	-	-	-
Rubber factories,	-	-	-	-	-	-	-	-	-	-
Straw workers,	-	-	-	-	-	1	-	-	-	-
Gas and electric companies,	-	-	-	-	-	-	-	-	-	-
Other miscellaneous industries and occupations,	-	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	-	-	-	-	-	-	-	-	-
<i>Water Transportation.</i>										
Water transportation,	-	-	-	-	-	1	-	-	-	1
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, sewers, bridges, etc.,	-	-	-	2	-	1	-	1	1	-
Livery stables,	-	-	-	1	-	-	-	2	-	-
Truck, transfer, cab and hack companies,	-	-	-	-	-	-	-	-	-	-
Street railways,	-	-	-	-	1	-	-	-	-	-
Steam railroads,	1	-	1	-	-	-	-	-	-	-
<i>Express Companies.</i>										
Express companies,	-	-	-	-	-	-	-	-	-	-
<i>Telegraph and Telephone.</i>										
Telegraph and telephone,	-	-	-	-	-	-	-	-	-	-

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.									
	RAILROAD EQUIPMENT.									
	Infec- tion from Trivial Cuts, Burns, etc.	Miscel- laneous (Unclassi- fied).	Portable Tools (Other than Rock Drills).	Presses (Print- ing).	Coupling or un- coupling Cars.	Falls from Loco- motives.	Falls from Trestles.	Struck or run over by Car or Loco- motive.	Col- lisions.	Miscel- laneous.
<i>Agriculture, Forestry and Animal Hus- bandry.</i>										
Agriculture,	-	-	-	-	-	-	-	1	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>										
Quarrying,	-	-	1	-	-	-	-	-	-	-
<i>Building Trades.</i>										
Building and hand trades,	2	-	-	-	-	-	-	1	-	-
<i>Chemical and Allied Products.</i>										
Paint makers,	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	1	-	-
<i>Clay, Glass and Stone Products.</i>										
Tile makers,	-	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>										
Fish curers and packers,	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	-	2	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-

[illegible]

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

INDUSTRIES.	CAUSE.										
	Infec- tion from Trivial Cuts, Burns, etc.	Miscel- laneous (Unclassi- fied).	Portable Tools (Other than Rock Drills).	Presses (Print- ing).	RAILROAD EQUIPMENT.					Sawn.	Shaft- ing, Set Screws, Coupl- ings, etc.
					Coupling or un- coupling Cars.	Falls from Cars or Loco- motives.	Falls from Trestles.	Struck or run over by Car or Loco- motive.	Col- lisions.		
<i>Miscellaneous Industries — Con.</i>											
Gas works,	-	-	-	-	-	-	-	-	-	-	-
Rubber factories,	-	-	-	-	-	-	-	-	-	-	-
Straw works,	-	-	-	-	-	-	-	-	-	-	-
Cut and electric companies.	-	-	-	-	-	-	-	-	-	-	-
Other miscellaneous industries and occupa- tions,	1	-	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	-	-	-	-	-	-	-	-	-	-
<i>Water Transportation.</i>											
Water transportation,	-	-	-	-	-	-	-	-	-	-	-
<i>Road, Street and Bridge Transportation.</i>											
Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	1	1	-	1	-	-	3	-	-	-
Livery stables,	-	-	-	-	-	-	-	-	-	-	-
Truck, transfer, cab and hack companies, .	-	-	-	-	-	-	-	-	-	-	-
Street railways,	-	-	-	-	5	11	-	24	1	1	-
Steam railroads,	-	1	-	-	-	-	-	-	-	-	-
<i>Express Companies.</i>											
Express companies,	1	-	-	-	-	-	-	-	-	-	-
<i>Telegraph and Telephone.</i>											
Telegraph and telephone,	-	-	-	-	-	-	-	-	-	-	-

	9	8	4	1	6	13	1	35	1	4	2	3
Miscellaneous Transportation.	-	-	-	-	-	-	-	-	-	-	-	-
Other persons in transportation,	-	-	-	-	-	-	-	-	-	-	-	-
Trade.												
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	-	-	-	-	-
Real estate,	-	-	-	-	-	-	-	-	-	-	-	-
Wholesale and retail trade,	1	-	-	-	-	-	-	1	-	-	-	-
Warehouses and cold-storage plants,	-	-	-	-	-	1	-	-	-	-	-	-
Other persons in trade,	-	-	-	-	-	-	-	-	-	-	-	-
Professional Service.												
Professional service (all kinds),	-	-	-	-	-	-	-	-	-	-	-	-
Domestic and Personal Service.												
Occupations not in industries,	-	-	-	-	-	-	-	-	-	-	-	-
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-	-	-
Total,	9	8	4	1	6	13	1	35	1	4	2	3

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Continued.

CAUSE.												
INDUSTRIES.	VEHICLES.				Acci- dents caused by Ma- chinery	STREET RAILWAYS.			HARMFUL SUB- STANCES (CAUSING CONSTITUTIONAL DISTURBANCES).		Harm- ful Con- ditions (Extreme Cold).	
	Animal- drawn.	Self- propelled.	Trucks, Wheel- barrows, etc.	Col- lisions between Vehicles.		Col- lisions between Cars.	Col- lisions between Car and Vehicle.	Run- ning Boards (struck by Ob- struc- tion).	Struck or run over by Car.	Gases, Vapors, and Fumes.		Lead.
<i>Agriculture, Forestry and Animal Hus- bandry.</i>												
Agriculture,	1	-	-	-	-	-	-	-	-	-	-	-
Forestry,	1	-	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Quarrying.</i>	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>												
Quarrying,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Building Trades.</i>												
Building and hand trades,	2	1	-	-	-	-	-	-	-	-	-	-
<i>Chemical and Allied Products.</i>												
Paint makers,	-	-	-	-	1	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers, Other chemical workers,	-	-	-	-	-	-	-	-	-	1	-	-
<i>Clay, Glass and Stone Products.</i>												
Clay,	-	-	-	-	-	-	-	-	-	-	-	-
Tile makers,	-	-	-	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>												
Fish curers and packers,	-	1	-	1	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	-	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-	-	-

TABLE IV. — *Fatal Accidents, classified by Industries and by Causes, etc.* — Concluded.

INDUSTRIES.	CAUSE.									
	VEHICLES.				Acci- dents caused by Ma- chinery Peen- ing Special Indus- tries.	STREET RAILWAYS.				Harm- ful Con- ditions (Extreme Cold).
	Animal- drawn.	Self- propelled.	Trucks, Wheel- barrows, etc.	Col- lisions between Vehicles.		Col- lisions between Cars.	Col- lisions between Car and Vehicle.	Run- ning Boards (struck by Ob- struc- tion).	Struck or run over by Car.	
<i>Miscellaneous Industries — Con.</i>										
Gas works,	-	-	-	-	-	-	-	-	-	-
Rubber factories,	-	-	-	-	-	-	-	-	-	-
Straw workers,	-	-	-	-	-	-	-	-	-	-
Gas and electric companies,	-	-	-	-	-	-	-	-	-	-
Other miscellaneous industries and occupa- tions,	-	-	-	-	-	-	-	-	-	-
Workers in "not specified" manufacturing and mechanical industries,	-	-	-	-	-	-	-	-	-	-
<i>Water Transportation.</i>										
Water transportation,	-	-	-	-	-	-	-	-	-	-
<i>Road, Street and Bridge Transportation.</i>										
Construction and maintenance of streets, roads, sewers, bridges, etc.,	6	5	1	-	2	-	1	-	-	-
Livery stables,	1	-	-	1	-	-	1	-	-	-
Truck, transfer, cab and hack companies,	7	-	-	-	-	-	-	2	1	-
Street railways,	-	1	-	-	-	1	-	-	-	-
Steam railroads,	-	-	-	-	-	-	-	-	-	-
<i>Express Companies.</i>										
Express companies,	-	-	-	-	-	-	-	-	-	-

	1	2	3	12	1	2	3	1	1	1
<i>Telegraph and Telephone.</i>										
Telegraph and telephone,	-	-	-	-	-	-	-	-	-	-
<i>Miscellaneous Transportation.</i>										
Other persons in transportation,	-	-	-	-	-	-	-	-	-	-
<i>Trade.</i>										
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	-	-	-
Real estate,	-	-	-	-	-	-	-	-	-	-
Wholesale and retail trade,	10	5	1	1	-	-	-	-	-	-
Warehouses and cold-storage plants,	-	-	-	-	-	-	-	-	-	-
Other persons in trade,	-	-	-	-	-	-	-	-	-	-
<i>Professional Service.</i>										
Professional service (all kinds),	-	-	-	-	-	-	-	-	-	-
<i>Domestic and Personal Service.</i>										
Occupations not in industries,	-	-	-	-	-	-	-	-	-	-
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-
Total,	29	14	1	3	12	1	2	3	1	1

TABLE V. — Occurrence of Non-fatal Accidents by Hours of the Day and by Days of the Week, July 1, 1914, to June 30, 1915.

INDUSTRIES.	HOURS, A.M.											
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>												
Agriculture,	-	-	-	-	-	-	1	4	19	21	12	6
Forestry,	-	-	-	-	-	-	2	8	13	26	21	7
Animal husbandry,	-	-	-	-	-	-	1	2	4	12	6	3
Ice harvesting,	-	2	2	-	-	1	1	5	8	23	21	7
<i>Mining, Extraction of Minerals.</i>												
Mining,	-	-	-	-	-	-	-	-	-	1	-	-
Quarrying,	-	-	1	-	-	2	11	36	56	92	61	25
<i>Building Trades.</i>												
Building and hand trades,	6	6	4	10	11	8	84	417	870	1,395	1,237	618
<i>Chemical and Allied Products.</i>												
Fertilizer makers,	-	-	-	-	-	1	1	5	6	15	7	9
Paint makers,	-	-	-	-	-	-	2	5	6	8	8	8
Powder, cartridge, fireworks, etc., makers,	1	2	1	3	-	1	9	3	11	10	8	6
Soap makers,	-	-	-	-	-	1	1	3	9	10	6	3
Other chemical workers,	-	1	1	4	-	-	6	40	55	51	76	34
<i>Clay, Glass and Stone Products.</i>												
Brick makers,	-	-	1	-	1	1	1	9	6	18	6	8
Potteries,	-	-	-	-	-	3	3	1	1	4	4	2
Tile makers,	-	-	-	-	-	1	1	1	5	1	1	1
Glass makers, workers,	-	-	-	-	-	2	2	2	5	14	9	7
Terra-cotta workers,	-	-	-	-	-	-	-	-	-	1	1	1
Lime, cement and kypseum,	-	1	-	1	-	-	4	10	14	10	9	8
Marble and stone cutters,	-	-	-	-	-	2	5	32	37	67	45	28
<i>Cladding.</i>												
Clothing makers,	-	-	-	-	-	-	-	8	20	37	46	22
Corset makers,	-	-	-	-	-	-	3	13	11	21	10	7

[illegible]

TABLE V.—Occurrence of Non-fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, A.M.											
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Metals and Metal Products Other than Iron and Steel.</i>												
Brass mills,	—	—	1	—	—	—	3	16	13	23	27	14
Clock factories,	—	—	—	—	—	—	1	1	2	4	2	3
Copper factories,	—	—	—	—	1	—	2	2	6	5	4	3
Gold and silver workers,	—	—	—	—	—	—	—	3	8	19	13	3
Jewelry factories,	—	—	—	—	—	—	7	14	34	42	34	26
Lead and zinc factories,	—	—	—	—	—	—	—	—	6	3	5	2
Tin-plate factories,	—	—	—	—	1	—	2	8	21	23	25	11
Watch factories,	—	—	—	—	—	—	2	2	5	10	4	2
Brass and copper,	—	1	1	—	1	1	5	10	8	28	15	8
Other metal workers,	—	—	1	—	3	1	2	23	53	72	83	27
<i>Paper.</i>												
Box makers (paper),	1	—	—	—	—	1	2	7	18	35	26	19
Makers of blank books, envelopes, tags, paper bags, etc.,	—	—	—	—	—	—	7	14	26	35	18	12
Paper mills,	9	15	19	9	6	11	46	98	168	231	178	87
Pulp mills,	—	—	—	1	—	—	1	4	1	8	—	2
Other papers,	—	—	—	—	—	1	2	6	26	37	22	12
<i>Printing and Bookbinding.</i>												
Printing and publishing establishments,	7	10	11	13	4	4	13	31	61	117	111	68
<i>Textiles.</i>												
Carpet mills,	—	—	—	—	2	—	7	18	33	37	55	20
Cotton mills,	4	13	6	11	7	11	259	598	844	1,109	883	439
Dyeing and finishing textiles,	1	2	—	—	1	1	16	41	71	75	84	45
Hemp and jute mills,	—	2	—	—	—	—	6	16	36	59	39	24
Knitting mills,	—	—	—	1	—	1	7	26	43	51	35	19
Linon mills,	—	—	1	—	—	—	6	17	21	31	31	10
Print works,	1	1	1	—	—	1	29	29	74	67	53	43
Rope and cordage factories,	—	2	—	—	1	—	7	7	10	8	6	4
Sail, awning and tent makers,	—	—	—	—	—	—	—	—	2	2	1	3

Silk mills,	1	11	13	10	10	2	1	20	16	9	9	13	18	21	30
Woolen and worsted mills,	11	—	3	—	—	—	—	135	—	135	255	359	440	449	208
Not specified textile workers,	—	—	—	—	—	—	—	13	—	13	49	63	96	96	51
<i>Miscellaneous Industries.</i>															
Button and brush makers,	—	1	—	—	—	—	—	—	—	1	4	13	12	19	6
Room makers,	—	—	—	—	—	—	—	—	—	2	3	11	13	17	7
Cleavers,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8
Electric light and power companies,	4	12	9	7	8	7	8	11	10	11	42	82	131	98	77
Electrical supplies,	2	3	4	5	5	5	7	20	7	20	121	167	227	180	97
Gas works,	4	12	10	11	11	11	11	18	9	18	54	86	134	126	55
Oil works,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2
Rubber factories,	6	20	21	16	21	16	21	58	30	58	135	202	245	245	152
Straw workers,	—	—	—	—	—	—	—	—	—	1	5	—	—	—	3
Tobacco,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gas and electric companies,	—	2	—	2	2	2	2	13	2	13	20	47	54	42	19
Other miscellaneous industries and occupations,	1	4	2	5	5	5	5	20	5	20	85	133	177	127	81
Workers in "not specified" manufacturing and mechanical industries,	—	—	1	4	4	4	—	18	1	18	53	81	112	115	68
<i>Water Transportation.</i>															
Water transportation,	1	4	3	5	5	5	6	22	3	22	81	86	130	96	83
<i>Road, Street and Bridge Transportation.</i>															
Construction and maintenance of streets, roads, sewers, bridges, etc.,	10	24	19	23	23	23	30	53	13	53	224	335	572	570	216
Livery stables,	—	1	—	2	2	2	2	7	7	7	5	18	22	20	12
Truck, transfer, cab and hack companies,	1	3	2	3	3	3	6	40	6	40	77	162	210	210	128
Street railways,	26	39	25	25	25	25	23	88	56	88	122	194	240	249	143
Steam railroads,	20	36	27	47	47	47	18	103	43	103	266	450	436	400	280
<i>Express Companies.</i>															
Express companies,	—	4	4	5	5	5	6	24	7	24	45	52	56	72	51
<i>Telegraph and Telephone.</i>															
Telegraph and telephone,	—	1	—	—	—	—	—	4	—	4	16	27	35	35	30
<i>Miscellaneous Transportation.</i>															
Other persons in transportation,	—	—	1	—	—	—	—	2	—	2	2	2	9	13	5
<i>Trade.</i>															
Banking and brokerage,	—	—	—	—	—	—	1	1	—	1	3	3	1	1	3
Insurance,	—	—	—	—	—	—	—	—	—	—	3	4	4	7	1
Real estate,	—	—	—	4	4	4	7	8	7	8	23	31	44	44	14

TABLE V. — Occurrence of Non-fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, A.M.											
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Trade — Con.</i>												
Wholesale and retail trade,	10	13	20	21	41	80	201	465	837	1,299	1,187	713
Warehouses and cold-storage plants,	1	1	2	3	3	6	6	21	35	55	48	32
Other persons in trade,	—	3	—	—	—	—	—	9	5	9	7	7
Clerical assistants (industry, business or profession not specified),	—	—	—	—	—	—	—	—	—	—	—	1
<i>Professional Service.</i>												
Professional service (all kinds),	2	5	—	2	1	10	14	38	50	51	55	35
<i>Domestic and Personal Service.</i>												
Occupations not in industries,	7	8	10	6	9	29	40	57	109	164	148	126
Laundries and laundry work,	—	—	—	2	—	3	9	24	30	37	26	11
Total,	174	319	291	311	318	488	2,014	5,902	9,341	13,096	11,798	6,211

TABLE V. — Occurrence of Non-fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, P.M.												DAYS OF THE WEEK.							Total.
	1	2	3	4	5	6	7	8	9	10	11	12	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>																				
Agriculture,	3	9	16	7	11	6	1	—	3	—	—	—	23	18	17	21	20	17	4	119
Forestry,	6	8	10	14	6	—	—	—	—	—	—	—	19	21	20	31	22	19	—	122
Animal husbandry,	1	4	11	1	1	4	—	—	1	—	—	—	8	4	9	10	15	4	1	51
Ice harvesting,	1	19	24	14	12	2	1	—	2	3	—	—	16	17	25	22	32	19	17	148
<i>Extraction of Minerals.</i>																				
Mining,	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	2	—	—	—	2
Quarrying,	13	46	64	41	24	9	3	3	1	2	2	—	79	98	82	72	79	76	6	492
<i>Building Trades.</i>																				
Building and hand trades,	263	821	1,096	954	450	63	27	40	15	17	25	7	1,535	1,373	1,439	1,414	1,472	1,128	83	8,444
<i>Chemical and Allied Products.</i>																				
Fertiliser makers,	4	4	10	10	6	2	—	3	2	1	3	—	14	18	14	15	11	14	3	89
Paint makers,	1	6	6	3	3	1	1	2	—	—	—	—	11	9	7	5	9	11	—	52
Powder, cartridge, fireworks, etc., makers,	5	17	13	13	12	2	2	3	9	1	4	1	19	20	23	32	20	23	2	139
Soap makers,	3	2	9	8	2	1	—	1	—	—	—	—	13	13	9	7	8	8	—	58
Other chemical workers,	21	36	64	52	31	7	2	1	5	2	1	—	83	93	89	81	67	69	8	490
<i>Clay, Glass and Stone Products.</i>																				
Brick makers,	2	7	9	8	10	3	1	—	—	1	—	—	14	12	13	18	18	15	2	92
Potteries,	—	2	1	3	6	1	1	—	—	—	—	—	6	4	4	8	3	3	—	27
Tile makers,	—	1	4	1	—	—	—	—	—	—	—	—	2	1	1	3	4	1	—	12
Glass makers, workers,	2	3	13	6	2	—	—	1	—	—	—	—	13	9	13	10	14	10	—	69

TABLE V.—Occurrence of Non-fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, P.M.												DAYS OF THE WEEK.							
													Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	Total.
	1	2	3	4	5	6	7	8	9	10	11	12								
<i>Clerk, Glass and Stone Products — Con.</i>																				
Terra-cotta workers,	1	5	15	16	10	—	—	—	—	—	—	—	24	16	18	15	20	16	1	110
Lime, cement and gypsum,	3	6	—	31	8	—	—	—	—	—	—	—	57	63	60	62	65	63	—	306
Marble and stone cutters,	18	40	54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Clothing.</i>																				
Clothing makers,	10	31	34	25	29	17	1	—	2	—	1	—	50	54	56	54	42	28	—	284
Corset makers,	2	12	20	9	8	2	—	—	—	—	—	—	17	22	20	25	18	17	—	119
Hat makers (wool or felt),	—	2	2	2	5	—	—	—	—	—	—	—	8	6	7	7	8	7	—	43
Shirt, collar and cuff makers, . . .	3	4	5	3	8	7	1	—	—	—	—	—	13	12	12	8	18	6	—	60
<i>Food and Kindred Products.</i>																				
Bakeries,	33	40	67	49	42	26	12	14	13	8	4	4	122	104	121	114	102	69	22	664
Butter and cheese makers,	—	—	1	2	1	1	—	—	—	—	—	—	3	—	1	—	2	1	—	7
Candy,	26	40	51	64	58	6	4	1	—	1	—	—	68	104	103	93	106	69	1	544
Fish curers and packers,	2	4	6	6	3	2	—	—	—	—	—	—	8	8	12	11	7	13	1	60
Flour and grain mills,	—	3	7	5	2	2	—	—	—	—	—	—	6	8	7	4	6	1	—	32
Fruit and vegetable canners, picklers and preservers,	1	3	2	5	1	—	—	—	—	—	—	—	5	4	6	6	4	3	—	28
Slaughter and packing houses, . . .	33	84	92	91	76	30	8	11	4	2	5	1	170	158	178	142	127	127	12	924
Sugar makers and refiners,	8	19	41	26	14	3	2	4	4	4	—	—	45	35	53	39	48	26	8	253
Other food preparers,	5	21	29	23	17	3	4	5	—	—	—	—	43	43	32	33	39	41	4	245
<i>Iron and Steel and their Products.</i>																				
Agricultural implements,	4	12	18	14	21	6	—	—	1	—	1	2	24	31	28	45	27	16	1	182
Automobile factories,	68	175	267	211	118	35	11	18	7	7	0	3	345	359	371	391	355	299	4	2,117
Car and railroad shops,	6	14	22	20	11	6	—	—	—	—	—	—	25	28	31	27	22	22	—	157
Foundries and metal working, . . .	190	703	1,078	1,072	815	292	38	55	27	31	30	9	1,444	1,459	1,490	1,543	1,488	960	53	8,427
Iron and steel mills,	4	26	37	38	30	16	—	2	3	7	—	1	62	67	57	64	75	38	1	365
Ship and boat building,	19	70	63	54	15	10	4	1	3	3	—	—	95	113	73	97	100	57	8	573

TABLE V. — Occurrence of Non-fatal Accidents, etc. — Concluded.

Industries.	HOURS, P.M.												DAYS OF THE WEEK.								
													Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	Total.	
	1	2	3	4	5	6	7	8	9	10	11	12									
<i>Printing and Bookbinding.</i>	30	44	88	82	64	27	10	13	9	14	6	4		136	125	162	138	154	107	19	841
<i>Printing and publishing establishments.</i>																					
<i>Textiles.</i>																					
Carpet mills,	13	26	24	25	24	5	25	1	1	1	1	1	7	54	43	70	65	41	16	24	289
Cotton mills,	204	563	729	706	619	21	88	26	33	20	17	19	7	1,237	1,253	1,297	1,280	1,312	801	24	7,214
Dyeing and finishing textiles,	21	49	67	70	65	21	13	3	2	2	2	2	2	109	117	124	114	113	69	4	640
Hemp and jute mills,	14	38	53	48	23	12	7	1	2	1	1	1	1	76	75	66	80	51	21	3	372
Knitting mills,	13	31	38	35	39	7	1	1	2	1	1	1	1	47	65	60	94	50	20	1	357
Linen mills,	6	21	32	14	19	1	1	1	2	1	1	1	1	45	46	36	27	33	20	5	207
Print works,	19	50	55	43	34	13	1	1	3	2	2	2	2	91	103	110	83	88	41	5	530
Rope and cordage factories,	7	9	7	3	7	1	1	1	1	1	1	1	1	16	12	6	24	14	4	8	80
Sail, awning and tent makers,	1	1	2	3	3	1	1	1	1	1	1	1	1	4	2	4	2	4	2	1	13
Silk mills,	4	8	9	11	9	1	1	1	1	1	1	1	1	19	21	21	26	27	19	2	133
Woolen and worsted mills,	95	254	335	350	324	76	18	50	24	13	14	9	1	548	622	659	611	672	363	25	3,510
Not specified textile workers,	20	61	67	80	43	14	2	2	2	3	3	2	2	123	123	122	114	108	63	5	666
<i>Miscellaneous Industries.</i>																					
Broom and brush makers,	6	13	13	13	5	2	2	1	1	1	1	1	1	15	23	27	11	18	15	1	109
Button makers,	3	8	11	13	12	4	1	1	1	1	1	1	1	16	16	20	12	18	14	1	96
Cigars,	5	1	6	1	4	1	1	1	1	1	1	1	1	13	5	13	10	7	6	1	54
Electric light and power companies,	36	78	97	110	61	24	19	22	18	16	13	4	4	133	156	163	140	170	155	72	988
Electrical supplies,	45	126	215	147	120	55	13	6	10	6	6	2	2	286	287	310	263	268	147	5	1,601
Gas works,	24	91	130	97	46	12	14	24	19	23	13	10	10	163	184	164	159	175	151	60	1,048
Oil works,	1	5	3	1	1	1	1	1	1	1	1	1	1	6	4	4	6	6	2	2	26
Rubber factories,	77	179	210	208	160	62	22	43	27	23	26	5	5	324	402	369	401	382	243	14	2,185
Straw workers,	1	4	4	6	2	1	1	1	1	1	1	1	1	8	7	6	6	8	3	1	36
Tobacco,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	4
Gas and electric companies,	10	29	43	31	19	5	3	4	8	1	2	4	4	53	68	50	49	63	64	18	364

Other miscellaneous industries and occupations in "not specified" manufacturing and mechanical industries,	19	124	105	117	53	6	6	7	4	-	2	192	210	190	231	217	131	4	1,175
Water Transportation.	36	49	102	79	73	20	3	4	6	5	4	1	140	146	133	161	90	10	844
Water transportation.	38	114	136	108	94	43	22	21	13	11	7	215	178	171	176	202	163	46	1,154
Road, Street and Bridge Transportation.	145	432	549	406	220	60	27	44	53	30	32	12	651	708	683	669	533	182	4,146
Construction and maintenance of streets, roads, sewers, bridges, etc.,	8	15	19	10	13	2	7	1	-	-	1	2	33	27	14	19	83	19	182
Livery stables,	61	116	200	170	133	71	22	12	13	13	7	6	305	264	260	253	251	45	1,043
Truck transfer, cab and hack companies,	113	200	271	233	184	113	81	90	63	41	64	35	389	442	406	444	418	224	2,773
Street railways,	172	332	362	244	87	43	63	66	57	47	23	663	661	664	723	677	536	140	4,052
Steam railroads,	37	43	64	57	69	53	35	19	25	15	12	5	121	131	125	118	115	10	760
Express Companies.	18	26	34	42	15	5	2	7	6	-	-	-	49	50	45	53	44	5	303
Telegraph and Telephone.	4	5	7	7	5	4	-	2	1	-	-	-	12	13	11	12	9	-	69
Miscellaneous Transportation.	2	1	3	2	5	1	-	-	1	-	-	-	3	6	6	4	2	-	28
Other persons in transportation,	2	1	3	2	5	1	-	-	1	-	-	-	3	6	6	4	2	-	28
Trade.	1	6	6	7	4	5	1	-	-	-	-	-	4	10	14	6	8	-	49
Banking and brokerage,	6	25	31	31	21	11	3	4	3	2	5	-	47	50	50	39	57	10	324
Insurance,	459	694	969	833	731	433	93	77	71	33	32	10	1,573	1,556	1,444	1,401	1,004	110	9,372
Real estate,	8	46	46	50	16	19	4	-	6	4	1	3	74	79	60	57	57	17	401
Wholesale and retail trade,	6	10	10	7	9	3	3	4	1	1	1	1	21	20	14	17	14	9	115
Warehouses and cold-storage plants,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Other persons in trade,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Clerical assistants (industry, business or profession not specified),	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Professional Service.	24	40	50	24	27	11	17	4	10	3	7	1	81	77	95	80	77	24	491
Professional service (all kinds),	89	116	164	96	70	79	57	69	54	50	31	8	230	234	241	237	256	103	1,596
Domestic and Personal Service.	16	24	31	41	30	17	2	2	2	-	-	-	71	57	64	38	43	5	307
Occupations not in industries,	3,246	7,839	10,753	9,549	6,892	2,430	746	895	735	543	504	217	16,128	16,299	16,127	16,108	12,172	1,600	94,597
Laundries and laundry work,																			
Total,																			

TABLE VI. — Occurrence of Fatal Accidents by Hours of the Day and by Days of the Week, July 1, 1914, to June 30, 1915.

INDUSTRIES.	HOURS, A.M.											
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Agriculture, Forestry and Animal Husbandry.</i>												
Agriculture,	-	-	-	-	-	-	-	-	1	-	-	-
Forestry,	-	-	-	-	-	-	-	1	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>												
Quarrying,	-	-	-	-	-	-	-	1	1	-	-	2
<i>Building Trades.</i>												
Building and hand trades,	-	1	-	-	-	-	1	2	4	9	3	1
<i>Chemical and Allied Products.</i>												
Paint makers,	-	-	-	-	-	-	-	-	-	-	-	-
Powder, cartridges, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>												
Tile makers,	-	-	-	-	-	-	-	-	1	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	1	-	-	-	-
<i>Food and Kindred Products.</i>												
Fish curers and packers,	-	-	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	-	-	2	-	-	-	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Iron and Steel and their Products.</i>												
Car and railroad shops,	-	-	-	-	-	-	-	-	-	-	-	-
Foundries and metal working,	-	-	-	-	-	-	-	-	-	-	-	-
Iron and steel mills,	-	-	-	-	-	-	-	-	-	1	-	-
Ship and boat building,	-	-	-	-	-	-	-	-	-	-	-	-
Other iron and steel workers,	-	-	-	-	-	-	-	-	-	-	-	-

TABLE VI. — Occurrence of Fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, A.M.											
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Road, Street and Bridge Transportation.</i>												
Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	1	2	-	1	-	-	2	6	5	3	3
Livery stables,	-	-	-	-	-	-	-	-	1	1	-	-
Truck transfer, cab and hack companies,	-	-	1	-	-	-	-	1	1	1	4	-
Street railways,	-	1	1	1	-	1	1	-	5	5	1	-
Steam railroads,	-	-	-	-	-	-	-	-	5	4	4	7
<i>Express Companies.</i>												
Express companies,	-	-	-	-	-	-	-	-	-	1	-	-
<i>Telegraph and Telephone.</i>												
Telegraph and telephone,	-	-	-	-	-	-	-	-	-	1	1	-
<i>Miscellaneous Transportation.</i>												
Other persons in transportation,	-	-	-	-	-	-	-	-	-	-	-	-
<i>Trade.</i>												
Banking and brokerage,	-	-	-	-	-	-	-	-	-	-	-	-
Insurance,	-	-	-	-	-	-	-	1	-	-	-	-
Real estate,	-	-	-	-	-	-	-	1	-	-	-	-
Wholesale and retail trade,	-	-	-	-	-	-	3	3	2	1	4	4
Warehouses and cold-storage plants,	-	-	-	-	-	-	-	-	-	-	-	-
Other persons in trade,	-	-	-	-	-	-	-	-	-	-	-	1
<i>Professional Service.</i>												
Professional service (all kinds),	-	-	-	-	-	-	-	-	1	-	-	-
<i>Domestic and Personal Service.</i>												
Occupations not in industries,	-	1	1	-	1	-	-	3	1	-	1	-
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-	-	-
Total,	2	4	6	1	2	2	10	21	36	30	35	22

TABLE VI. — Occurrence of Fatal Accidents, etc. — Continued.

Industries.	HOURS, P.M.												DAYS OF THE WEEK.							
	1	2	3	4	5	6	7	8	9	10	11	12	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	Total.
<i>Agriculture, Forestry and Animal Husbandry.</i>																				
Agriculture,	1	-	-	-	1	-	-	-	-	-	-	-	-	1	2	2	1	-	-	3
Forestry,	-	-	-	1	3	-	-	-	-	-	-	-	-	-	2	-	1	1	-	3
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Extraction of Minerals.</i>																				
Quarrying,	1	1	-	-	-	-	-	-	-	-	-	-	-	1	1	-	1	3	-	6
<i>Building Trades.</i>																				
Building and hand trades,	1	4	7	10	4	-	1	-	-	-	-	-	8	8	10	12	10	6	-	54
<i>Chemical and Allied Products.</i>																				
Paint makers,	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Powder, cartridge, fireworks, etc., makers,	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1
Other chemical workers,	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	-	1	-	1	2
<i>Clay, Glass and Stone Products.</i>																				
Tile makers,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1
Marble and stone cutters,	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
<i>Food and Kindred Products.</i>																				
Fish curers and packers,	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	1	-	-	1
Slaughter and packing houses,	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	3	-	1
Sugar makers and refiners,	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	1	-	-	-	2
Other food preparers,	-	1	1	-	-	-	1	-	-	-	-	-	1	-	-	1	1	-	-	3

TABLE VI. — Occurrence of Fatal Accidents, etc. — Continued.

INDUSTRIES.	HOURS, P.M.												DAYS OF THE WEEK.							Total.
	1	2	3	4	5	6	7	8	9	10	11	12	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	
<i>Iron and Steel and their Products.</i>																				
Car and railroad shops,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Foundries and metal working,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Iron and steel mills,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ship and boat building,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other iron and steel workers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Leather and its Finished Products.</i>																				
Leather belt, leather case and pocket-book makers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Shoos,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Tanneries,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Liquors and Beverages.</i>																				
Breweries,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Lumber and its Remanufacture.</i>																				
Box makers (wood),	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Furniture,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Pianos and organs,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Saw and planing mills,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other woodworkers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Metals and Metal Products Other than Iron and Steel.</i>																				
Other metal workers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
<i>Paper.</i>																				
Paper mills,	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Other papers,	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

TABLE VI. — Occurrence of Fatal Accidents, etc. — Concluded.

Industries.	Hours, P.M.												Days of the Week.							Total.
	1	2	3	4	5	6	7	8	9	10	11	12	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.	Sunday.	
<i>Trade.</i>																				
Banking and brokerage,	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	1	-	1
Insurance,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Real estate,	-	-	1	1	1	-	-	-	-	-	-	-	-	-	2	3	7	10	-	38
Wholesale and retail trade,	2	6	3	3	5	1	-	-	1	-	-	-	5	8	1	3	1	-	-	1
Warehouses and cold-storage plants,	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
Other persons in trade,	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
<i>Professional Services.</i>																				
Professional services (all kinds),	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	1	2	-	-	3
<i>Domestic and Personal Service.</i>																				
Occupations not in industries,	-	1	-	-	1	-	-	-	-	-	-	-	1	2	1	-	1	3	1	9
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total,	23	27	35	34	29	11	8	7	9	6	6	5	52	60	57	64	61	60	16	370

TABLE VII. — *Occurrence of Non-fatal Accidents by Months of the Year, July 1, 1914, to June 30, 1915.*

MONTHS.												Number of Accidents.
July, . . . . .	.	.	.	.	.	.	.	.	.	.	.	8,230
August, . . . . .	.	.	.	.	.	.	.	.	.	.	.	8,135
September, . . . . .	.	.	.	.	.	.	.	.	.	.	.	7,852
October, . . . . .	.	.	.	.	.	.	.	.	.	.	.	8,041
November, . . . . .	.	.	.	.	.	.	.	.	.	.	.	7,189
December, . . . . .	.	.	.	.	.	.	.	.	.	.	.	7,284
January, . . . . .	.	.	.	.	.	.	.	.	.	.	.	7,668
February, . . . . .	.	.	.	.	.	.	.	.	.	.	.	6,622
March, . . . . .	.	.	.	.	.	.	.	.	.	.	.	8,324
April, . . . . .	.	.	.	.	.	.	.	.	.	.	.	7,767
May, . . . . .	.	.	.	.	.	.	.	.	.	.	.	8,419
June, . . . . .	.	.	.	.	.	.	.	.	.	.	.	9,176
Total, . . . . .	.	.	.	.	.	.	.	.	.	.	.	94,597

TABLE VIII. — *Occurrence of Fatal Accidents by Months and Days of the Month, July 1, 1914, to June 30, 1915.*

DAYS OF THE MONTH.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.	June.	Total.
1,	1	-	3	1	-	-	1	1	2	4	-	3	15
2,	1	-	-	1	-	-	-	3	1	2	-	3	8
3,	2	1	1	2	1	2	1	3	1	1	1	-	13
4,	1	-	-	1	1	-	1	1	1	-	-	2	12
5,	-	-	1	1	1	1	1	3	1	3	-	1	13
6,	-	-	2	2	3	-	2	3	1	1	1	-	12
7,	1	2	2	1	1	1	1	1	1	1	1	-	9
8,	1	2	2	6	1	1	1	2	1	2	-	2	19
9,	3	-	-	3	1	1	1	4	1	1	1	1	18
10,	1	-	1	1	2	1	1	3	1	1	1	1	13
11,	2	-	1	1	2	1	1	-	-	1	1	-	7
12,	-	1	-	1	-	1	-	-	-	3	1	-	8
13,	-	3	-	2	1	-	1	3	1	1	1	1	13
14,	3	3	-	1	1	-	1	1	1	1	-	-	14
15,	-	1	-	1	1	2	2	2	2	2	4	1	18
16,	1	1	-	1	1	3	2	2	1	1	1	1	9
17,	1	2	-	1	1	3	-	-	1	1	1	1	10
18,	3	1	-	-	1	-	-	-	2	-	2	1	11
19,	-	1	1	-	-	1	-	-	-	-	2	1	7
20,	1	-	1	2	3	1	1	1	-	1	-	-	10
21,	-	5	1	-	3	2	-	-	1	-	-	2	14
22,	2	2	2	-	-	1	-	-	-	-	1	1	9
23,	2	3	2	2	3	1	-	-	1	1	1	1	16
24,	-	1	2	3	1	2	-	5	2	1	3	-	20
25,	1	1	-	-	1	1	1	-	2	-	-	3	10
26,	-	1	3	2	-	3	-	-	-	-	1	-	12
27,	3	3	-	2	1	-	2	-	-	1	-	1	12
28,	-	-	-	2	1	-	2	1	-	-	1	-	10
29,	3	1	1	2	-	-	2	-	1	2	2	1	15
30,	-	-	1	-	-	1	-	-	1	-	-	-	4
31,	2	2	-	3	-	-	1	-	-	-	1	-	9
Total,	34	40	26	43	35	26	24	35	23	23	23	23	370

TABLE IX. — Distribution of Non-fatal Accidents by Sex, Age and Basis of Wage Payments, July 1, 1914, to June 30, 1915.

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 30 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Piece-work.	Time-work.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>											
Agriculture,	119	-	3	11	26	30	23	6	6	-	119
Forestry,	123	-	-	13	43	34	14	13	7	13	109
Animal husbandry,	50	1	1	3	13	11	16	3	2	3	49
Ice harvesting,	148	-	-	13	48	43	30	10	2	-	148
<i>Extraction of Minerals.</i>											
Mining,	3	-	-	-	-	1	1	-	-	-	3
Quarrying,	493	-	-	21	146	157	63	44	31	31	471
<i>Building Trades.</i>											
Building and hand trades,	8,435	9	6	664	3,099	3,433	1,486	866	178	63	8,393
<i>Chemical and Allied Products.</i>											
Fertilizer makers,	37	-	-	4	30	36	23	13	4	7	83
Paint makers,	53	-	-	3	31	9	9	10	4	-	61
Powder, cartridge, fireworks, etc., makers,	114	25	3	20	66	33	11	7	3	6	130
Soap makers,	37	1	-	6	19	14	10	7	3	-	45
Other chemical workers,	456	34	3	53	173	148	63	25	6	16	474
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	93	-	-	10	30	37	16	3	6	3	93
Potteries,	37	-	-	3	6	13	4	3	1	2	33
Tile makers,	13	-	-	3	1	4	4	-	-	-	13
Glass makers, workers,	69	-	3	10	36	13	6	6	-	-	69
Terra-cotta workers,	3	-	-	-	1	3	-	-	-	-	3
Lime, cement and gypsum,	110	-	-	6	40	37	17	9	1	4	109
Marble and stone cutters,	269	-	1	20	93	118	54	24	31	16	233

<i>Clothing.</i>									
Clothing makers,	122	162	101	110	40	14	11	3	114
Corset makers,	26	98	50	30	15	9	7	2	45
Hat makers (wool or felt),	35	13	1	13	14	7	6	4	9
Shirt, collar and cuff makers,	23	47	22	20		3	0		45
<i>Food and Kindred Products.</i>									
Bakeries,	537	77	102	286	137	69	31	16	70
Butter and cheese makers,	7	166	—	6	1	—	—	1	—
Candy,	378	—	148	281	77	42	15	12	28
Fish curers and packers,	59	1	10	14	10	2	11	10	2
Flour and grain mills,	31	8	3	13	2	4	5	2	—
Fruit and vegetable canners, picklers, preservers,	20	—	9	13	2	—	—	—	—
Slaughter and packing houses,	934	—	42	441	233	134	55	23	26
Sugar makers and refiners,	233	—	9	96	73	54	17	5	—
Other food preparers,	220	25	53	100	51	18	18	5	5
<i>Iron and Steel and their Products.</i>									
Agricultural implements,	182	—	12	64	43	35	15	12	50
Automobile factories,	2,098	19	240	941	590	218	69	24	399
Car and railroad shops,	157	55	16	54	51	30	8	10	46
Foundries and metal working,	8,372	3	917	3,295	2,170	1,261	516	223	879
Iron and steel mills,	363	3	81	164	160	35	21	6	46
Ship and boat building,	573	—	36	217	169	101	41	19	213
Wagons and carriages,	123	1	6	28	33	23	17	12	3
Other iron and steel workers,	3,863	117	457	1,037	1,027	563	304	68	1,203
<i>Leather and its Finished Products.</i>									
Harness and saddle makers and repairers,	40	21	18	26	12	10	2	2	20
Leather belt, leather case and pocketbook makers,	—	3	16	17	14	12	8	2	14
Shoes,	3,057	800	1,182	1,714	806	435	191	72	1,336
Tanneries,	1,318	10	128	580	340	183	106	43	144
Trunk makers,	15	—	3	6	5	1	—	—	1
<i>Liquors and Beverages.</i>									
Breweries,	546	2	6	122	197	137	76	10	1
Distilleries,	12	—	—	4	6	1	1	—	—
Other liquor and beverage workers,	143	1	17	60	41	19	4	3	—
<i>Lumber and its Remanufacture.</i>									
Box makers (wood),	429	3	55	106	117	90	46	18	18
Furniture,	712	34	110	223	183	96	83	64	131
Piano and organs,	365	16	112	106	69	29	31	21	62
Saw and planing mills,	300	1	41	70	85	65	31	12	239
Other woodworkers,	1,102	7	204	314	289	167	93	57	66
									1,043

TABLE IX. — *Distribution of Non-fatal Accidents by Sex, Age and Basis of Wage Payments, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 29 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Piece-workers.	Time-workers.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>											
Agriculture,	119	-	3	11	39	30	22	8	6	-	119
Forestry,	122	-	-	12	63	24	14	12	7	13	109
Animal husbandry,	50	1	1	2	12	11	15	3	7	2	49
Ice harvesting,	148	-	-	13	48	42	30	10	5	-	148
<i>Extraction of Minerals.</i>											
Mining,	2	-	-	-	-	1	1	-	-	-	2
Quarrying,	492	-	-	31	146	157	93	44	21	31	471
<i>Building Trades.</i>											
Building and hand trades,	8,435	9	8	684	3,039	2,483	1,486	566	178	62	8,383
<i>Chemical and Allied Products.</i>											
Fertilizer makers,	87	2	-	4	20	26	22	13	4	7	82
Paint makers,	52	-	-	5	21	9	10	4	3	1	61
Powder, cartridge, fireworks, etc., makers,	114	25	2	20	66	32	11	7	1	9	130
Soap makers,	57	1	-	5	19	14	10	7	3	-	58
Other chemical workers,	456	34	3	56	174	148	68	35	6	16	474
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	92	-	-	10	30	27	16	3	6	9	83
Potteries,	27	-	-	-	8	12	4	2	1	4	23
Tile makers,	12	-	-	2	1	4	4	-	1	-	12
Glass makers, workers,	69	2	2	10	29	13	9	6	-	-	69
Terra-cotta workers,	3	-	-	-	1	2	-	-	-	-	3
Lime, cement and gypsum,	110	-	-	6	40	37	17	9	1	4	106
Marble and stone cutters,	360	-	1	20	92	113	84	38	21	14	355

<i>Clothing.</i>									
Clothing makers,	122	101	110	40	14	11	3	114	170
Coat makers,	98	54	30	15	9	7	2	45	74
Hat makers (wool or felt),	25	1	13	12	7	6	2	9	24
Shirt, collar and cuff makers,	47	23	20	14	3	4	4	45	24
<i>Food and Kindred Products.</i>									
Bakeries,	587	102	356	157	69	31	16	70	504
Butter and cheese makers,	7	—	5	1	—	—	—	—	7
Candy,	378	145	231	77	42	15	12	28	515
Fish curers and pickers,	19	10	15	10	2	11	10	2	18
Flour and grain mills,	31	9	13	6	4	5	2	—	32
Fruit and vegetable canners, picklers, preservers,	27	9	11	2	3	3	1	—	33
Slaughter and packing houses,	924	42	441	235	124	55	23	26	908
Sugar makers and refiners,	265	9	69	72	54	17	5	—	263
Other food preparers,	220	53	100	51	16	18	5	5	240
<i>Iron and Steel and their Products.</i>									
Agricultural implements,	182	12	64	43	35	15	12	50	132
Automobile factories,	2,068	240	981	580	218	69	24	349	1,748
Car and railroad shops,	187	10	54	51	30	5	10	55	101
Foundries and metal working,	8,377	917	3,295	2,170	1,261	515	223	870	7,543
Iron and steel mills,	362	51	181	100	33	21	5	44	260
Ship and boat building,	573	36	217	159	101	41	19	213	340
Ship and carriages,	123	9	25	33	23	17	12	3	131
Other iron and steel workers,	3,863	457	1,637	1,037	563	204	63	1,332	2,763
<i>Leather and its Finished Products.</i>									
Harness and saddle makers and repairers,	50	18	26	12	10	3	2	20	51
Leather belt, leather case and pocketbook makers,	68	16	17	14	13	8	2	14	57
Shoes,	3,957	1,133	1,714	800	433	191	72	1,531	2,631
Trunk makers,	1,318	123	530	340	183	166	42	144	1,184
Trunk makers,	15	2	6	5	1	—	—	1	14
<i>Liquors and Beverages.</i>									
Breweries,	546	6	122	197	137	79	10	1	547
Distilleries,	12	—	4	6	1	1	—	—	12
Other liquor and beverage workers,	143	17	60	41	19	4	3	—	144
<i>Lumber and its Remanufacture.</i>									
Box makers (wood),	439	55	105	117	90	45	18	18	414
Furniture,	713	9	110	132	99	53	54	131	625
Frames and organs,	345	112	105	69	30	31	19	62	319
Saw and planing mills,	300	41	70	81	58	31	11	12	289
Other woodworkers,	1,102	204	314	259	167	93	57	66	1,043

TABLE IX. — *Distribution of Non-fatal Accidents, etc. — Continued.*

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 25 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Piece-workers.	Time-workers.
<i>Metal and Metal Products Other than Iron and Steel.</i>											
Brass mills,	160	15	1	23	53	42	31	14	6	28	147
Clock factories,	13	2	-	1	5	4	4	1	-	1	14
Copper factories,	39	-	-	4	15	7	11	-	2	-	30
Gold and silver workers,	90	3	5	19	25	21	13	8	2	3	90
Jewelry factories,	241	28	7	39	117	63	27	12	4	17	253
Lead and zinc factories,	24	1	-	4	7	5	3	4	2	-	25
Tin-plate factories,	148	6	2	38	80	24	5	4	1	20	125
Watch factories,	25	12	-	13	7	5	3	4	5	10	27
Brass and copper,	173	1	-	3	73	49	24	13	12	10	164
Other metal workers,	479	25	4	104	192	118	55	25	6	58	446
<i>Paper.</i>											
Box makers (paper),	126	33	6	69	70	35	16	11	2	61	148
Makers of blank books, envelopes, tags, paper bags, etc.,	112	70	1	71	63	26	17	2	2	48	134
Paper mills,	1,438	207	18	261	596	333	242	137	53	162	1,483
Pulp mills,	43	-	-	3	15	13	10	1	1	-	43
Other papers,	144	32	1	54	53	21	25	11	6	15	161
<i>Printing and Bookbinding.</i>											
Printing and publishing establishments,	767	74	13	213	274	163	99	55	19	18	823
<i>Textiles.</i>											
Carpet mills,	221	68	11	61	96	41	50	21	9	92	197
Cotton mills,	5,444	1,770	239	1,294	2,519	1,510	1,004	482	176	1,335	5,379
Dyeing and finishing textiles,	595	45	3	106	240	139	88	46	18	2	638
Hemp and jute mills,	245	127	13	111	133	70	33	7	5	142	280
Knitting mills,	279	128	10	99	103	67	45	16	13	208	149
Linten mills,	141	66	14	65	60	33	23	17	6	53	154
Print works,	451	69	14	71	169	121	88	45	23	80	440
Rope and cordage factories,	63	17	2	23	33	10	7	6	2	26	54
Sail, awning and tent makers,	15	3	-	3	4	4	6	1	-	-	18

Silk mills,	98	35	6	45	37	21	12	8	4	33	100
Woolen and worsted mills,	2,790	720	84	605	1,234	723	465	264	105	465	3,045
Not specified textile workers,	457	179	29	164	200	153	83	32	6	105	561
<i>Miscellaneous Industries.</i>											
Broom and brush makers,	80	39	3	48	24	15	4	4	2	38	71
Button makers,	34	34	3	39	41	12	9	9	2	32	64
Cleavers,	48	6	—	13	6	14	12	9	—	25	26
Electric light and power companies,	98	4	—	13	457	285	129	41	9	988	98
Electrical supplies,	1,481	120	5	285	640	396	214	84	28	764	837
Oil works,	1,047	1	1	44	398	324	211	57	13	—	1,048
Ona works,	29	1	—	10	9	6	6	7	—	—	29
Rubber factories,	1,945	340	25	308	938	480	283	88	83	844	1,841
Straw workers,	28	8	—	6	8	7	7	5	3	10	26
Tobacco,	4	1	—	1	1	1	—	—	1	—	4
Gas and electric companies,	263	1	—	12	151	107	64	24	6	1	363
Other miscellaneous industries and occupations,	1,050	125	21	269	513	193	96	56	27	296	879
Workers in "not specified" manufacturing and mechanical industries,	744	100	4	204	305	165	112	39	15	150	694
<i>Water Transportation.</i>											
Water transportation,	1,153	1	—	27	379	331	251	132	34	127	1,027
<i>Road, Street and Bridge Transportation.</i>											
Construction and maintenance of streets, roads, sewers, bridges, etc.,	4,143	3	1	242	1,310	1,128	843	441	181	8	4,138
Livery stables,	1,182	3	—	11	28	53	41	33	16	—	182
Truck, transfer, cab and hack companies,	1,639	3	1	108	524	495	243	151	40	8	1,634
Street railways,	2,756	17	2	119	1,098	755	514	224	61	23	2,750
Steam railroads,	4,027	25	—	183	1,588	1,227	645	303	109	657	3,395
<i>Express Companies.</i>											
Express companies,	759	1	2	62	348	218	95	19	16	—	760
<i>Telegraph and Telephone.</i>											
Telegraph and telephone,	261	42	2	23	153	83	26	8	3	1	302
<i>Miscellaneous Transportation.</i>											
Other persons in transportation,	69	—	—	8	18	16	19	7	1	—	69
<i>Trade.</i>											
Banking and brokerage,	26	2	2	2	8	11	2	3	2	—	28
Insurance,	36	13	—	10	11	11	7	6	2	—	49
Real estate,	278	46	—	18	76	92	70	44	24	1	323

TABLE IX. — *Distribution of Non-fatal Accidents, etc. — Concluded.*

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 29 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Piece-workers.	Time-workers.
<i>Trade — Con.</i>											
Wholesale and retail trade,	7,975	1,397	72	1,555	3,233	2,375	1,385	593	209	108	9,264
Warehouses and cold-storage plants,	399	2	1	31	137	106	82	33	12	2	399
Other persons in trade,	101	14	4	18	48	20	19	6	—	—	115
Clerical assistants (industry, business or profession not specified),	1	1	—	—	—	1	—	1	—	—	2
<i>Professional Service.</i>											
Professional service (all kinds),	246	145	5	62	191	102	71	44	16	4	437
<i>Domestic and Personal Service.</i>											
Occupations not in industries,	1,241	355	4	150	741	333	210	75	24	29	1,537
Laundries and laundry work,	173	134	1	43	111	85	44	17	7	23	235
Total,	86,069	8,508	870	12,630	35,012	22,337	14,090	6,273	2,435	12,201	82,296

TABLE X. — *Distribution of Fatal Accidents by Sex, Age and Basis of Wage Payments, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 25 Years.	26 to 30 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Piece-workers.	Time-workers.
<i>Agriculture, Forestry and Animal Husbandry.</i>											
Agriculture,	3	-	-	-	-	-	1	-	2	-	3
Forestry,	3	-	-	-	-	2	-	1	-	-	3
Animal husbandry,	1	-	-	-	-	-	-	1	-	-	1
<i>Extraction of Minerals.</i>											
Quarrying,	6	-	-	-	2	1	2	-	1	1	5
<i>Building Trades.</i>											
Building and hand trades,	54	-	-	1	15	11	16	9	2	-	54
<i>Chemical and Allied Products.</i>											
Paint makers,	1	-	-	-	-	1	1	-	-	-	1
Powder, cartridge, fireworks, etc., makers,	1	-	-	-	-	-	-	1	1	-	2
Other chemical workers,	2	-	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>											
Tile makers,	1	-	-	-	-	-	-	-	1	-	1
Marble and stone cutters,	2	-	-	-	-	1	-	-	-	-	2
<i>Food and Kindred Products.</i>											
Fish curers and packers,	1	-	-	-	1	1	1	1	-	-	1
Slaughter and packing houses,	4	-	-	-	1	1	1	1	-	-	4
Sugar makers and refiners,	3	-	-	-	-	-	-	-	-	-	3
Other food preparers,	2	-	1	-	2	-	-	-	-	-	2
<i>Iron and Steel and their Products.</i>											
Car and railroad shops,	1	-	-	-	3	2	1	-	2	-	1
Foundries and metal working,	7	-	-	-	-	-	-	-	-	-	7
Iron and steel mills,	1	-	-	-	-	2	1	2	1	-	1
Ship and boat building,	1	-	-	-	1	-	1	-	-	-	1
Other iron and steel workers,	2	-	-	-	-	-	-	-	-	-	2

TABLE X. — *Distribution of Fatal Accidents, etc. — Concluded.*

INDUSTRIES.	SEX.		AGE PERIODS.							BASIS OF WAGE PAYMENTS.	
	Male.	Female.	Under 16 Years.	16 to 20 Years.	21 to 29 Years.	30 to 39 Years.	40 to 49 Years.	50 to 59 Years.	60 Years and over.	Place-workers.	Time-workers.
<i>Leather and its Finished Products.</i>											
Leather belt, leather case and pocketbook makers,	1	—	—	3	—	—	1	1	—	1	1
Shoos,	4	—	—	—	—	2	1	—	1	—	4
Tanneries,	4	—	—	—	—	—	—	—	—	—	—
<i>Liquors and Beverages.</i>											
Breweries,	2	—	—	—	—	—	1	—	1	—	2
<i>Lumber and its Remanufacture.</i>											
Box makers (wood),	2	—	—	—	—	1	—	1	—	—	2
Furniture,	1	—	—	—	—	1	—	—	—	—	1
Pianos and organs,	1	—	—	—	—	—	1	—	—	—	1
Saw and planing mills,	2	—	—	—	1	—	—	—	1	—	2
Other woodworkers,	1	—	—	—	—	1	—	—	—	—	1
<i>Metals and Metal Products Other than Iron and Steel.</i>											
Other metal workers,	1	—	—	1	—	—	—	—	—	—	1
<i>Paper.</i>											
Paper mills,	6	—	—	—	1	—	1	4	—	—	6
Other papers,	1	—	—	—	1	—	—	—	—	—	1
<i>Printing and Bookbinding.</i>											
Printing and publishing establishments,	2	—	1	—	—	—	1	—	—	—	2
<i>Textiles.</i>											
Cotton mills,	7	—	—	—	—	2	1	3	1	1	6
Dyeing and finishing textiles,	3	—	—	—	1	—	—	1	1	1	3
Rope and cordage factories,	1	—	—	—	1	—	—	1	—	—	1
Woolen and worsted mills,	11	—	—	1	—	3	5	1	1	—	11
Not specified textile workers,	1	—	—	—	—	—	1	—	—	—	1
<i>Miscellaneous Industries.</i>											
Electric light and power companies,	6	—	—	—	1	2	2	1	—	—	6
Electrical supplies,	1	—	—	—	—	—	1	—	—	—	1

TABLE XI. — *Distribution of Non-fatal Accidents by Wage Groups, July 1, 1914, to June 30, 1915.*

Industries.	\$6 and under.	\$6.01 to \$7.	\$7.01 to \$9.	\$9.01 to \$9.	\$9.01 to \$10.	\$10.01 to \$11.	\$11.01 to \$12.	\$12.01 to \$13.	\$13.01 to \$14.	\$14.01 to \$15.	\$15.01 to \$16.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>											
Agriculture,	8	3	2	5	17	14	43	6	5	6	-
Forestry,	1	3	1	2	38	8	24	4	14	20	4
Animal husbandry,	1	3	1	5	6	2	9	-	4	6	3
Ice harvesting,	-	-	1	2	-	23	75	4	26	10	1
<i>Extraction of Minerals.</i>											
Mining,	-	-	-	-	-	2	-	-	-	-	-
Quarrying,	5	1	2	15	14	37	197	53	40	43	8
<i>Building Trades.</i>											
Building and hand trades,	100	50	66	207	147	643	1,799	123	700	613	180
<i>Chemical and Allied Products.</i>											
Fertilizer makers,	1	-	2	4	23	14	10	3	12	10	1
Paint makers,	2	-	2	2	3	11	9	3	3	3	1
Powder, cartridge, fireworks, etc., makers,	19	8	1	14	23	17	13	4	5	11	11
Soap makers,	1	1	2	5	9	10	10	1	6	3	2
Other chemical workers,	30	13	15	16	28	123	70	25	33	30	20
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	2	-	1	4	5	15	40	5	3	8	1
Potteries,	-	-	-	2	2	5	-	1	6	5	-
Tile makers,	-	-	-	3	1	2	1	1	-	-	-
Glass makers, workers,	5	3	1	3	-	3	10	5	4	17	4
Terra-cotta workers,	-	-	-	-	-	-	1	-	1	-	-
Lime, cement and gypsum,	-	-	1	5	35	15	26	1	2	9	5
Marble and stone cutters,	4	3	7	5	14	30	54	16	23	37	5
<i>Clothing.</i>											
Clothing makers,	59	25	40	36	26	8	22	8	7	14	8
Corset makers,	41	15	23	12	8	2	7	1	2	3	-
Hat makers (wool or felt),	3	-	2	2	6	2	10	-	1	6	1
Shirt, collar and cuff makers,	19	6	9	13	6	4	2	2	1	3	2
<i>Food and Kindred Products.</i>											
Bakeries,	35	23	36	60	70	47	86	33	34	53	35
Butter and cheese makers,	-	-	-	-	1	1	1	1	-	1	-

Candy.	128	40	53	70	45	27	45	12	33	19	10
Fish curers and packers.	3	2	2	7	7	1	9	3	4	13	6
Flour and grain mills.	1	5	2	5	2	2	3	2	9	2	1
Fruit and vegetable canners, picklers, preservers.	6	3	2	3	3	2	5	—	2	2	—
Slaughter and packing houses.	3	1	12	73	189	131	147	73	84	71	31
Sugar makers and refiners.	5	—	3	3	38	12	88	27	41	10	2
Other food preparers.	23	10	11	19	—	—	20	13	40	17	15
<i>Iron and Steel and their Products.</i>											
Agricultural implements.	1	9	13	31	17	31	29	11	15	9	1
Automobile factories.	30	25	26	47	97	115	151	155	127	148	27
Car and railroad shops.	1	1	—	4	7	17	22	10	23	24	7
Foundries and metal working.	243	127	235	672	737	1,345	900	399	663	664	303
Iron and steel mills.	13	11	17	32	34	52	64	11	24	18	6
Ship and boat building.	5	7	17	12	21	65	59	2	37	75	13
Wagons and carriages.	2	1	1	3	1	6	23	3	21	23	4
Other iron and steel workers.	124	90	110	271	275	281	406	185	336	446	186
<i>Leather and its Finished Products.</i>											
Harness and saddle makers and repairers.	3	2	6	14	7	8	9	1	7	6	—
Leather belt, leather case and pocketbook makers.	6	1	2	14	8	5	12	4	5	5	—
Shoes.	420	181	373	577	388	269	437	114	275	429	101
Tanneries.	23	41	113	264	238	86	142	41	84	114	24
Trunk makers.	2	—	2	2	—	—	1	—	2	3	—
<i>Liquors and Beverages.</i>											
Breweries.	2	2	1	2	1	—	21	16	26	36	65
Distilleries.	—	—	—	—	1	—	1	—	4	—	—
Other liquor and beverage workers.	1	2	3	9	9	9	37	18	19	15	7
<i>Lumber and its Remanufacture.</i>											
Box makers (wood).	6	5	26	57	53	49	73	25	39	31	13
Furniture.	49	26	43	94	74	89	112	30	56	48	15
Pianos and organs.	44	20	28	37	31	25	35	15	22	34	18
Saw and planing mills.	7	1	7	35	30	35	61	6	24	8	8
Other woodworkers.	63	53	84	118	84	102	137	34	73	89	31
<i>Metals and Metal Products Other than Iron and Steel.</i>											
Brass mills.	3	7	15	17	13	15	21	10	8	13	10
Clock factories.	—	—	1	1	1	1	2	—	1	2	—
Copper factories.	1	—	—	5	12	7	3	5	1	—	1
Gold and silver workers.	15	1	5	9	3	7	7	3	4	11	4
Jewelry factories.	23	16	16	33	24	22	17	10	16	15	8
Lead and zinc factories.	—	—	—	2	2	1	4	1	6	3	—
Tin-plate factories.	13	16	13	31	24	13	13	1	4	5	3

TABLE XI. — *Distribution of Non-fatal Accidents by Wage Groups, etc.* — Continued.

Industries.	\$4 and under.	\$4.01 to \$7.	\$7.01 to \$9.	\$9.01 to \$9.	\$9.01 to \$10.	\$10.01 to \$11.	\$11.01 to \$12.	\$12.01 to \$13.	\$13.01 to \$14.	\$14.01 to \$15.	\$15.01 to \$16.
<i>Metal and Metal Products Other than Iron and Steel—</i>											
<i>Coal.</i>											
Watch factories.	2	3	—	5	5	5	2	—	—	1	3
Brass and copper.	1	—	2	17	26	9	57	16	19	5	3
Other metal workers.	41	16	22	48	32	41	78	18	37	31	13
<i>Paper.</i>											
Box makers (paper).	27	20	25	22	17	15	24	6	9	12	6
Makers of blank books, envelopes, tags, paper bags, etc.,	32	26	19	14	7	13	8	8	8	9	3
Paper mills.	121	43	52	131	173	286	257	90	97	73	32
Pulp mills.	—	—	—	2	19	3	9	1	3	—	1
Other papers.	18	14	13	21	23	16	21	6	8	12	3
<i>Printing and Bookbinding.</i>											
Printing and publishing establishments.	113	42	38	44	45	31	54	29	35	40	29
<i>Textiles.</i>											
Carpet mills.	24	23	28	37	30	32	27	8	14	18	4
Cotton mills.	590	615	1,375	1,280	879	594	441	266	361	298	203
Dyeing and finishing textiles.	15	38	65	183	121	60	42	16	28	26	12
Hemp and jute mills.	47	53	54	56	69	10	15	15	14	17	9
Knitting mills.	45	38	82	39	36	20	15	17	14	13	7
Linen mills.	30	22	32	38	21	17	9	6	15	7	1
Print works.	37	35	86	116	55	40	31	15	20	20	8
Rope and cordage factories.	18	6	11	18	9	6	2	—	3	2	2
Sail, awning and tent makers.	—	—	2	1	1	—	1	—	3	5	1
Silk mills.	20	14	20	9	6	19	13	7	5	5	3
Woolen and worsted mills.	157	203	485	871	423	241	229	137	148	183	97
Not specified textile workers.	69	46	114	107	87	48	41	18	21	29	22
<i>Miscellaneous Industries.</i>											
Broom and brush makers.	19	10	9	17	8	6	5	5	6	8	1
Button makers.	24	12	6	5	9	3	10	2	3	7	6
Cigars.	2	6	3	5	2	—	—	—	1	—	—
Electric light and power companies.	4	10	2	18	17	20	108	36	128	90	63
Electrical supplies.	70	54	59	90	165	141	97	103	182	117	102
Gas works.	6	2	6	9	15	72	209	55	143	139	87
Oil works.	—	—	—	—	2	2	3	4	7	1	1
Rubber factories.	115	51	74	177	265	315	298	97	119	164	84

	2	—	3	2	2	2	2	1	9	1	3	2	—
Straw workers,	2	—	—	2	2	2	2	1	—	—	—	2	—
Tobacco,	1	—	—	7	7	7	7	4	71	4	53	40	16
Gas and electric companies,	91	51	60	183	183	183	183	92	131	71	81	74	27
Other miscellaneous industries and occupations,	73	52	55	66	66	66	66	80	128	29	68	56	26
Workers in "not specified" manufacturing and mechanical industries,													
<i>Water Transportation.</i>													
Water transportation,	9	6	31	26	26	26	26	89	512	158	64	125	16
<i>Road, Street and Bridge Transportation.</i>													
Construction and maintenance of streets, roads, sewers, bridges, etc.,	10	11	44	108	108	108	108	122	922	244	546	786	64
Livery stables,	1	—	2	6	6	6	6	12	82	11	31	14	1
Truck, transfer, cab and hack companies,	19	8	16	44	44	44	44	68	319	118	254	185	221
Street railways,	5	7	6	21	21	21	21	68	272	203	304	278	232
Steam railroads,	21	26	81	133	133	133	133	245	390	231	426	307	273
<i>Express Companies.</i>													
Express companies,	6	2	1	11	11	11	11	33	77	136	191	118	15
<i>Telegraph and Telephone.</i>													
Telegraph and telephone,	8	4	4	9	9	9	9	10	25	7	29	42	5
<i>Miscellaneous Transportation.</i>													
Other persons in transportation,	—	2	1	2	2	2	2	8	13	2	10	10	1
<i>Trade.</i>													
Banking and brokerage,	—	1	—	—	—	—	—	2	1	1	5	4	—
Insurance,	7	4	2	7	7	7	7	4	3	1	3	2	3
Real estate,	25	24	3	547	547	547	547	28	49	9	22	31	10
Wholesale and retail trade,	696	283	576	10	10	10	10	703	1,843	528	1,061	939	467
Warehouses and cold-storage plants,	3	—	—	—	—	—	—	5	13	36	64	32	21
Other persons in trade,	16	12	17	7	7	7	7	10	159	3	8	8	3
Clerical assistants (industry, business or profession not specified),	—	—	—	—	—	—	—	1	7	—	—	1	—
<i>Professional Services.</i>													
Professional service (all kinds),	96	30	30	37	37	37	37	43	44	14	25	27	7
<i>Domestic and Personal Service.</i>													
Occupations not in industries,	211	146	123	144	144	144	144	190	179	51	82	93	33
Laundries and laundry work,	50	21	24	22	22	22	22	28	20	13	11	25	17
Total,	4,579	3,040	5,228	7,809	7,809	7,809	7,809	7,283	12,748	4,410	7,843	7,913	3,490

TABLE XI. — *Distribution of Non-fatal Accidents by Wage Groups, etc. — Continued.*

INDUSTRIES.	\$16.01 to \$17.	\$17.01 to \$18.	\$18.01 to \$19.	\$19.01 to \$20.	\$20.01 to \$21.	\$21.01 to \$22.	\$22.01 to \$23.	\$23.01 to \$24.	\$24.01 to \$25.	Over \$25.
<i>Agriculture, Forestry, Animal Husbandry and Ice Har- vesting.</i>										
Agriculture,	2	1	2	3	1	-	-	1	1	1
Forestry,	2	3	1	2	-	-	-	-	1	-
Animal husbandry,	1	3	-	-	2	-	-	-	1	-
Ice harvesting,										
<i>Extraction of Minerals.</i>										
Mining,	-	-	-	-	-	-	-	-	-	-
Quarrying,	12	17	12	16	8	-	-	2	5	-
<i>Building Trades.</i>										
Building and hand trades,	439	467	109	331	323	382	70	240	631	826
<i>Chemical and Allied Products.</i>										
Fertiliser makers,	2	3	-	3	1	-	-	-	-	2
Paint makers,	5	3	-	1	-	-	-	-	2	2
Powder, cartridge, fireworks, etc., makers,	6	3	2	5	-	-	-	-	1	2
Soap makers,	1	2	1	1	-	-	-	1	1	1
Other chemical workers,	10	18	4	23	11	1	1	2	2	7
<i>Clay, Glass and Stone Products.</i>										
Brick makers,	3	2	-	-	-	1	-	1	-	1
Potters,	1	3	-	1	-	-	-	-	-	1
Tile makers,	1	1	-	2	-	-	-	-	-	1
Glass makers, workers,	1	3	2	2	-	1	-	1	3	-
Terra-cotta workers,	-	-	-	-	-	-	-	-	1	-
Lime-cement and gypsum,	3	3	-	1	5	-	-	-	-	-
Marble and stone cutters,	12	21	56	41	17	5	4	4	8	13
<i>Clothing.</i>										
Clothing makers,	1	8	2	3	2	1	-	4	3	8
Coat makers,	1	2	-	2	2	-	-	-	-	1
Hat makers (wool or felt),	1	1	-	2	2	-	-	2	-	-
Shirt, collar and cuff makers,	-	1	-	1	-	-	-	1	-	-
<i>Food and Kindred Products.</i>										
Bakeries,	82	83	7	15	15	4	4	6	7	7
Butter and cheese makers,	1	1	-	-	-	-	-	-	-	-

Candy,	10	23	3	5	3	1	4	4	4	1
Fish curers and packers,	2	1	-	-	-	-	-	-	-	-
Flour and grain mills,	2	1	-	-	-	-	-	-	-	-
Fruit and vegetable canners, picklers, preservers,	-	1	-	-	-	-	-	-	-	-
Slaughter and packing houses,	21	46	2	21	2	1	1	4	8	7
Sugar makers and refiners,	8	45	6	1	1	-	1	1	1	2
Other food preparers,	1	14	1	2	-	-	-	-	3	6
<i>Iron and Steel and their Products.</i>										
Agricultural implements,	6	5	1	1	-	1	1	13	16	1
Automobile factories,	347	159	59	118	49	24	8	8	382	382
Car and railroad shops,	17	6	4	8	1	1	2	2	2	-
Foundries and metal working,	507	515	124	328	183	60	54	69	73	145
Iron and steel mills,	17	13	2	16	4	2	7	7	5	16
Ship and boat building,	55	58	4	14	18	3	4	4	4	3
Wagons and carriages,	4	12	1	5	4	3	4	2	4	1
Other iron and steel workers,	211	402	100	213	80	71	34	28	43	88
<i>Leather and its Finished Products.</i>										
Harness and saddle makers and repairers,	-	4	1	1	1	-	-	1	-	1
Leather belt, leather case and pocketbook makers,	2	2	1	2	-	-	-	-	-	2
Shoes,	152	268	46	196	73	55	30	31	75	79
Tanners,	29	55	9	28	9	7	4	-	14	3
Trunk makers,	-	1	-	1	-	-	-	-	1	-
<i>Liquors and Beverages.</i>										
Breweries,	71	102	60	72	31	13	5	4	6	12
Distilleries,	-	2	1	2	1	-	-	-	1	1
Other liquor and beverage workers,	6	12	-	3	-	-	-	-	-	-
<i>Lumber and its Remanufacture.</i>										
Box makers (wood),	17	12	3	6	5	-	1	2	7	1
Furniture,	18	37	3	15	6	6	4	3	4	12
Flance and organs,	13	25	4	11	6	2	1	3	2	5
Saw and planing mills,	8	27	3	7	7	3	4	8	2	8
Other woodworkers,	33	57	16	35	20	35	5	19	14	8
<i>Metals and Metal Products Other than Iron and Steel.</i>										
Brass mills,	12	11	-	3	6	1	1	2	1	6
Clock factories,	1	1	-	1	1	-	-	1	-	2
Copper factories,	-	1	-	-	-	-	-	-	-	-
Gold and silver workers,	8	16	1	4	1	2	3	1	2	7
Jewelry factories,	1	10	5	6	6	3	3	4	5	4
Lead and zinc factories,	1	2	2	1	1	-	-	-	-	-
Thin-plate factories,	3	3	-	2	1	1	-	-	4	2

TABLE XI. — Distribution of Non-fatal Accidents by Wage Groups, etc. — Continued.

INDUSTRIES.	\$16.01 to \$17.	\$17.01 to \$18.	\$18.01 to \$19.	\$19.01 to \$20.	\$20.01 to \$21.	\$21.01 to \$22.	\$22.01 to \$23.	\$23.01 to \$24.	\$24.01 to \$25.	Over \$25.
<i>Metals and Metal Products Other than Iron and Steel —</i>										
<i>Con.</i>										
Watch factories,	2	4	1	1	-	2	-	-	1	-
Brass and copper,	2	4	7	15	4	6	7	3	2	11
Other metal workers,	21	29	-	-	-	-	-	-	18	-
<i>Paper.</i>										
Box makers (paper),	4	11	1	2	-	1	1	1	3	2
Makers of blank books, envelopes, tags, paper bags, etc.,	10	9	3	1	-	-	-	-	6	1
Paper mills,	40	85	23	62	34	8	12	13	6	18
Pulp mills,	-	3	1	-	-	-	-	-	6	1
Other papers,	1	8	4	3	3	1	-	-	1	-
<i>Printing and Bookbinding.</i>										
Printing and publishing establishments,	27	48	18	31	41	15	16	28	29	88
<i>Textiles.</i>										
Carpet mills,	8	17	-	8	-	2	1	4	3	1
Cotton mills,	83	92	19	37	21	13	1	19	9	28
Dyeing and finishing textiles,	10	13	-	3	2	2	1	1	2	9
Hemp and jute mills,	4	3	1	2	-	-	-	1	-	2
Knitting mills,	3	5	2	3	2	3	-	1	2	10
Linen mills,	1	2	2	2	2	3	1	3	1	1
Print works,	18	8	2	4	5	3	-	-	2	11
Rope and cordage factories,	-	3	-	-	-	-	-	-	-	-
Sail, awning and tent makers,	2	2	-	-	-	1	-	-	2	1
Silk mills,	5	59	25	24	27	9	6	9	8	22
Woolen and worsted mills,	10	22	1	13	4	2	2	1	4	5
Not specified textile workers,	-	-	-	-	-	-	-	-	-	-
<i>Miscellaneous Industries.</i>										
Broom and brush makers,	-	6	1	8	2	-	1	-	2	-
Button makers,	4	3	2	6	-	1	4	-	-	1
Cigars,	2	1	-	-	4	11	7	15	21	45
Electric light and power companies,	70	165	35	36	89	18	8	5	8	18
Electrical supplies,	138	101	88	70	18	18	3	3	6	38
Gas works,	68	81	26	45	26	9	8	8	6	1
Oil works,	3	3	-	-	1	29	10	-	-	-
Rubber factories,	86	97	44	73	36	1	-	6	15	20

TABLE XII. — *Distribution of Fatal Accidents by Wage Groups, July 1, 1914, to June 30, 1915.*

Industries.	\$6 and under.	\$6.01 to \$7.	\$7.01 to \$8.	\$8.01 to \$9.	\$9.01 to \$10.	\$10.01 to \$11.	\$11.01 to \$12.	\$12.01 to \$13.	\$13.01 to \$14.	\$14.01 to \$15.	\$15.01 to \$16.
<i>Agriculture, Forestry and Animal Husbandry.</i>											
Agriculture,	-	-	-	1	-	1	-	-	1	-	-
Forestry,	-	-	-	-	-	-	-	1	-	1	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-	1
<i>Extraction of Minerals.</i>											
Quarrying,	-	-	-	2	-	1	2	-	-	-	-
<i>Building Trades.</i>											
Building and hand trades,	1	-	-	-	2	3	7	1	10	4	2
<i>Chemical and Allied Products.</i>											
Paint makers,	-	-	-	-	-	-	-	1	-	-	-
Powder, cartridge, fireworks, etc., makers,	-	-	-	-	-	-	-	-	-	-	-
Other chemical workers,	-	-	-	-	-	1	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>											
Tile makers,	-	-	-	-	-	-	1	-	-	-	1
Marble and stone cutters,	-	-	1	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>											
Fish curers and packers,	-	-	-	-	-	-	-	-	-	-	-
Slaughter and packing houses,	-	-	-	-	1	-	-	-	-	-	-
Sugar makers and refiners,	-	-	1	-	-	-	1	-	-	-	-
Other food preparers,	-	2	-	-	-	-	-	-	-	-	-
<i>Iron and Steel and their Products.</i>											
Car and railroad shops,	-	-	-	1	-	-	-	-	-	1	-
Foundries and metal working,	-	-	-	-	-	-	-	-	1	-	-
Iron and steel mills,	-	-	-	-	-	1	-	-	-	-	-
Ship and boat building,	-	-	-	1	-	1	1	-	-	-	-
Other iron and steel workers,	-	-	-	-	-	-	-	-	1	-	-
<i>Leather and its Finished Products.</i>											
Leather belt, leather case and pocketbook makers,	-	-	1	-	-	-	1	-	-	-	-
Shoes,	2	-	-	1	-	1	-	-	-	-	-
Tanners,	-	-	-	-	2	-	-	-	-	-	-

TABLE XII. — *Distribution of Fatal Accidents by Wage Groups, etc. — Continued.*

Industries.	\$6 and under.	\$6.01 to \$7.	\$7.01 to \$8.	\$8.01 to \$9.	\$9.01 to \$10.	\$10.01 to \$11.	\$11.01 to \$12.	\$12.01 to \$13.	\$13.01 to \$14.	\$14.01 to \$15.	\$15.01 to \$16.
<i>Road, Street and Bridge Transportation — Con.</i>											
Truck, transfer, cab and hack companies,	-	-	-	1	-	2	3	3	2	1	1
Street railways,	-	-	-	2	-	5	2	3	-	1	1
Steam railroads,	-	-	-	-	3	-	4	3	5	4	3
<i>Express Companies.</i>											
Express companies,	-	-	-	-	-	-	-	-	2	-	-
<i>Telegraph and Telephone.</i>											
Telegraph and telephone,	-	-	-	-	-	-	-	-	-	-	-
<i>Miscellaneous Transportation.</i>											
Other persons in transportation,	-	-	-	-	-	-	-	-	-	1	-
<i>Trade.</i>											
Banking and brokerage,	-	-	-	-	-	-	-	-	1	-	-
Insurance,	-	-	-	-	-	-	-	-	-	-	-
Real estate,	-	-	-	1	1	-	-	-	1	-	-
Wholesale and retail trade,	2	-	2	-	3	-	11	1	6	3	1
Warehouses and cold-storage plants,	-	-	-	-	-	-	1	-	1	-	-
Other persons in trade,	-	-	1	-	-	-	-	-	-	-	-
<i>Professional Service.</i>											
Professional services (all kinds),	-	1	-	-	-	-	-	1	-	-	-
<i>Domestic and Personal Service.</i>											
Occupations not in industries,	-	1	1	1	1	-	1	-	2	-	-
Laundries and laundry work,	-	-	-	-	-	-	-	-	-	-	-
Total,	8	4	11	16	24	26	60	16	42	28	13

TABLE XII. — *Distribution of Fatal Accidents by Wage Groups, etc.* — Continued.

Industries.	\$16.01 to \$17.	\$17.01 to \$18.	\$18.01 to \$19.	\$19.01 to \$20.	\$20.01 to \$21.	\$21.01 to \$22.	\$22.01 to \$23.	\$23.01 to \$24.	\$24.01 to \$25.	Over \$25.
<i>Agriculture, Forestry and Animal Husbandry.</i>										
Agriculture,	-	-	-	-	-	1	-	-	-	-
Forestry,	-	-	-	-	-	-	-	-	-	-
Animal husbandry,	-	-	-	-	-	-	-	-	-	-
<i>Extraction of Minerals.</i>										
Quarrying,	-	-	-	-	-	-	-	-	-	-
<i>Building Trades.</i>										
Building and hand trades,	-	6	1	2	1	2	1	-	7	4
<i>Chemical and Allied Products.</i>										
Paint makers,	-	-	-	-	-	-	-	-	-	-
Powder, cartridge, fireworks, etc., makers,	1	-	-	-	-	-	-	-	-	-
Other chemical workers,	1	-	-	-	-	-	-	-	-	-
<i>Clay, Glass and Stone Products.</i>										
Tile makers,	-	-	-	-	-	-	-	-	-	-
Marble and stone cutters,	-	-	-	-	-	-	-	-	-	-
<i>Food and Kindred Products.</i>										
Fish curers and packers,	-	-	-	1	-	-	-	-	-	-
Slaughter and packing houses,	2	-	-	-	-	-	-	1	-	-
Sugar makers and refiners,	-	-	-	-	-	-	-	-	-	-
Other food preparers,	-	-	-	-	-	-	-	-	-	-
<i>Iron and Steel and their Products.</i>										
Car and railroad shops,	-	1	-	1	-	-	-	-	1	-
Foundries and metal working,	-	-	-	-	-	-	-	-	-	-
Iron and steel mills,	-	-	1	1	1	-	-	-	-	-
Ship and boat building,	-	-	-	-	-	-	-	-	-	-
Other iron and steel workers,	-	-	-	-	-	-	-	-	-	-
<i>Leather and its Finished Products.</i>										
Leather belt, leather case and pocketbook makers,	-	-	-	-	-	-	-	-	-	-
Shoes,	-	-	-	-	-	-	-	-	-	-
Tanners,	-	-	-	-	-	-	-	-	-	-

TABLE XII. — *Distribution of Fatal Accidents by Wage Groups, etc. — Concluded.*

INDUSTRIES.	\$16.01 to \$17.	\$17.01 to \$19.	\$19.01 to \$19.	\$19.01 to \$20.	\$20.01 to \$21.	\$21.01 to \$22.	\$22.01 to \$24.	\$24.01 to \$25.	Over \$25.
<i>Liquors and Beverages.</i>									
Breweries,	-	-	1	-	-	-	-	-	1
<i>Lumber and its Remanufacture.</i>									
Box makers (wood),	-	-	-	-	-	-	-	-	-
Furniture,	-	-	-	-	-	-	-	-	-
Pianos and organs,	-	-	-	-	-	-	-	-	-
Saw and planing mills,	-	-	-	-	-	-	-	-	-
Other woodworkers,	-	-	-	-	-	-	-	-	-
<i>Metals and Metal Products Other than Iron and Steel.</i>									
Other metal workers,	-	-	-	-	-	-	-	-	-
<i>Paper.</i>									
Paper mills,	-	1	-	-	-	-	-	-	-
Other papers,	-	-	-	-	-	-	-	-	-
<i>Printing and Bookbinding.</i>									
Printing and publishing establishments,	-	-	-	-	-	-	-	-	-
<i>Textiles.</i>									
Cotton mills,	-	-	-	-	1	-	-	-	-
Dyeing and finishing textiles,	-	-	-	-	-	-	-	-	-
Rope and cordage factories,	-	-	-	-	-	-	-	-	-
Woolen and worsted mills,	1	-	-	-	1	-	-	-	-
Not specified textile workers,	-	1	-	-	-	-	-	-	-
<i>Miscellaneous Industries.</i>									
Electric light and power companies,	1	3	-	-	1	-	-	1	-
Electrical supplies,	-	-	-	-	-	-	-	-	-
Gas works,	-	-	-	1	1	-	-	-	-
Rubber factories,	-	-	-	1	-	-	-	-	-
Straw workers,	-	-	-	-	-	-	-	-	-
Gas and electric companies,	2	1	-	-	-	-	-	-	-
Other miscellaneous industries and occupations, Workers in "not specified" manufacturing and me- chanical industries,	-	-	-	-	-	1	-	-	-

TABLE XIII. — Duration of Total Disability in Non-fatal Accident Cases, July 1, 1914, to June 30, 1915.

INDUSTRIES.	Less than 1 Day.	1 to 3 Days.	4 to 7 Days.	8 to 10 Days.	11 to 14 Days.	15 to 28 Days.	4 to 8 Weeks.	8 to 12 Weeks.	13 to 26 Weeks.	26 to 51 Weeks.	1 Year and over.
<i>Agriculture, Forestry, Animal Husbandry, and Ice Harvesting.</i>											
Agriculture,	18	12	21	7	13	17	16	6	4	5	—
Forestry,	21	13	19	9	12	12	23	6	4	1	2
Animal husbandry,	7	3	5	9	5	7	9	2	4	1	—
Ice harvesting,	24	16	24	8	6	17	34	9	8	1	1
<i>Extraction of Minerals.</i>											
Mining,	—	—	—	—	—	—	1	—	—	—	1
Quarrying,	170	64	60	27	31	55	44	19	11	8	3
<i>Building Trades.</i>											
Building and hand trades,	3,562	909	981	361	396	777	679	334	243	117	86
<i>Chemical and Allied Products.</i>											
Fertiliser makers,	25	9	6	7	4	17	8	5	4	3	1
Paint makers,	22	9	7	1	—	8	2	2	1	1	1
Powder, cartridge, fireworks, etc., makers,	53	18	15	11	10	9	11	9	2	1	—
Soap makers,	21	9	10	3	6	3	4	2	2	—	—
Other chemical workers,	266	53	49	21	31	33	19	6	6	—	2
<i>Clay, Glass and Stone Products.</i>											
Brick makers,	15	9	13	10	8	15	10	4	6	2	—
Potteries,	10	6	7	1	1	2	—	—	—	—	—
Tile makers,	6	1	1	—	—	2	1	—	—	1	—
Glass makers, workers,	27	8	10	4	3	5	9	2	—	—	1
Terra-cotta workers,	1	1	—	—	—	—	—	—	1	—	—
Lime, cement and gypsum,	17	15	23	8	11	12	14	6	2	2	—
Marble and stone cutters,	103	56	47	31	24	41	32	17	8	5	5
<i>Cladding.</i>											
Clothing makers,	114	36	34	16	24	27	21	9	2	—	1
Corset makers,	98	8	6	1	1	2	3	—	3	—	—
Hat makers (wood or felt),	17	2	2	2	4	8	3	1	3	—	1
Shirt, collar and cuff makers,	38	4	12	3	4	5	3	—	—	—	—

<i>Food and Kindred Products.</i>									
Bakeries,	342	51	68	20	33	64	55	17	11
Butter and cheese makers,	2	2	—	1	1	—	—	—	—
Candy,	278	45	52	26	38	47	36	16	3
Fish curers and packers,	8	6	13	4	5	11	9	3	—
Flour and grain mills,	11	4	8	2	1	4	—	—	—
Fruit and vegetable canners, picklers, preservers,	12	4	1	2	1	2	1	1	1
Slaughter and packing houses,	374	128	170	65	58	83	30	18	6
Sugar makers and refiners,	147	16	24	15	12	16	15	3	6
Other food preparers,	113	28	17	9	13	36	32	5	1
<i>Iron and Steel and their Products.</i>									
Agricultural implements,	104	23	18	7	6	10	11	3	1
Automobile factories,	1,725	117	89	29	40	54	37	16	8
Car and railroad shops,	70	22	14	8	8	19	8	5	2
Foundries and metal working,	4,860	765	918	285	377	553	454	146	67
Iron and steel mills,	175	30	51	18	13	35	33	5	3
Ship and boat building,	57	35	108	70	67	121	70	19	13
Wagons and carriages,	41	15	16	5	7	15	12	10	3
Other iron and steel workers,	1,551	460	536	210	223	315	263	70	40
<i>Leather and its Finished Products.</i>									
Harness and saddle makers and repairers,	24	11	10	4	6	7	3	4	1
Leather belt, leather case and pocketbook makers,	11	5	11	7	12	13	5	4	3
Shoes,	2,429	429	387	155	196	350	312	106	68
Tanneries,	774	81	112	51	83	86	87	28	15
Trunk makers,	7	2	1	1	—	3	1	—	—
<i>Liquors and Beverages.</i>									
Breweries,	218	50	78	26	35	60	47	21	9
Distilleries,	6	1	2	—	—	—	1	—	1
Other liquor and beverage workers,	72	16	20	7	8	5	5	6	3
<i>Lumber and its Remanufactures.</i>									
Box makers (wood),	165	56	54	21	16	43	48	15	9
Furniture,	315	89	96	23	43	79	65	24	7
Pianos and organs,	163	36	41	14	19	35	23	11	5
Saw and planing mills,	91	33	42	18	10	38	35	16	11
Other woodworkers,	428	111	135	53	68	133	122	34	16
<i>Metals and Metal Products Other than Iron and Steel.</i>									
Brass mills,	90	24	18	2	4	14	13	5	4
Clock factories,	8	2	1	1	—	1	—	—	—

TABLE XIII. — Duration of Total Disability in Non-fatal Accident Cases, etc. — Continued.

Industries.	Less than 1 Day.	1 to 3 Days.	4 to 7 Days.	8 to 10 Days.	11 to 14 Days.	15 to 20 Days.	4 to 8 Weeks.	8 to 12 Weeks.	12 to 26 Weeks.	26 to 52 Weeks.	1 Year and over.
<i>Metals and Metal Products Other than Iron and Steel</i>											
— Con.											
Copper factories,	6	8	6	2	4	7	4	1	1	—	—
Gold and silver workers,	41	8	10	6	6	10	7	3	2	—	—
Jewelry factories,	134	23	35	12	14	20	20	7	4	—	—
Lead and zinc factories,	6	6	4	—	2	2	2	1	1	—	—
Tin-plate factories,	74	13	17	4	8	15	10	9	3	—	—
Watch factories,	9	8	9	1	2	3	4	—	1	—	—
Brass and copper,	97	16	19	5	13	10	9	2	3	—	—
Other metal workers,	225	64	85	15	20	38	37	10	6	3	3
<i>Paper.</i>											
Box makers (paper),	97	19	37	9	13	31	29	6	7	—	1
Makers of blank books, envelopes, tags, paper bags, etc.,	86	23	29	3	6	18	12	4	1	—	—
Paper mills,	670	174	242	95	101	164	120	37	27	10	5
Pulp mills,	18	3	5	3	4	6	3	1	—	—	—
Other papers,	56	21	21	14	11	20	17	9	4	1	3
<i>Printing and Bookbinding.</i>											
Printing and publishing establishments,	268	74	91	31	48	86	79	39	23	3	—
<i>Textiles.</i>											
Carpet mills,	122	35	42	10	16	37	19	10	5	2	1
Cotton mills,	2,495	748	1,137	374	524	763	645	277	173	58	20
Dyeing and finishing textiles,	63	315	77	24	32	49	49	13	11	3	4
Hemp and jute mills,	181	44	52	19	28	23	23	1	—	—	—
Knitting mills,	142	34	74	15	21	26	20	18	6	1	—
Linen mills,	94	18	38	6	13	14	17	5	2	—	—
Print works,	251	50	61	14	25	33	47	14	12	5	3
Rope and cordage factories,	17	8	14	2	9	14	11	3	3	—	—
Sail, awning and tent makers,	7	2	—	1	2	1	1	1	—	—	—
Silk mills,	65	16	—	7	6	5	7	—	2	—	—
Woolen and worsted mills,	1,762	328	399	121	180	377	243	105	66	10	14
Not specified textile workers,	316	58	84	23	36	45	50	14	8	5	8

TABLE XIII. — Duration of Total Disability in Non-fatal Accident Cases, etc. — Concluded.

INDUSTRIES.	Less than 1 Day.	1 to 3 Days.	4 to 7 Days.	8 to 10 Days.	11 to 14 Days.	15 to 20 Days.	4 to 8 Weeks.	8 to 12 Weeks.	13 to 26 Weeks.	26 to 51 Weeks.	1 Year and over.
<i>Trade — Con.</i>											
Warehouses and cold-storage plants,	191	37	54	19	21	29	32	6	7	2	3
Other persons in trade,	39	12	14	5	11	7	15	3	4	2	3
Clerical assistants (industry, business or profession not specified),	2	-	-	-	-	-	-	-	-	-	-
<i>Professional Service.</i>											
Professional service (all kinds),	253	43	47	20	19	33	40	17	12	3	4
<i>Domestic and Personal Service.</i>											
Occupations not in industries,	598	165	213	90	114	190	116	56	36	11	7
Laundries and laundry work,	123	33	28	11	22	28	30	8	13	3	4
Total,	42,478	10,084	11,875	4,287	5,131	8,564	9,979	2,687	1,682	609	421

TABLE XIV. — *Specific Injury Cases, July 1, 1914, to June 30, 1915.*

Industries.	Two Eyes and One Hand lost.	Both Feet lost.	One Eye and One Hand lost.	One Foot and One Toe lost.	One Eye lost.	One Hand lost.	One Foot lost.	Two or More Fingers lost.	Two or More Toes lost.	One Finger and One Toe lost.	One Finger lost.	One Toe lost.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>												
Agriculture,	1	1	1	1	1	1	1	1	1	1	1	1
Forestry,	1	1	1	1	1	1	1	1	1	1	1	1
Animal husbandry,	1	1	1	1	1	1	1	1	1	1	1	1
Ice harvesting,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Quarrying.</i>												
Extraction of Minerals.	1	1	1	1	1	1	1	1	1	1	1	1
<i>Building Trades.</i>												
Building and hand trades,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Chemical and Allied Products.</i>												
Paint makers,	1	1	1	1	1	1	1	1	1	1	1	1
Powder, cartridge, fireworks, etc., makers,	1	1	1	1	1	1	1	1	1	1	1	1
Other chemical workers,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Clay, Glass and Stone Products.</i>												
Brick makers,	1	1	1	1	1	1	1	1	1	1	1	1
Terra-cotta workers,	1	1	1	1	1	1	1	1	1	1	1	1
Marble and stone cutters,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Cladding.</i>												
Hat makers (wool or felt),	1	1	1	1	1	1	1	1	1	1	1	1

TABLE XIV. — *Specific Injury Cases, etc.* — Continued.

INDUSTRIES.	Two Eyes and One Hand lost.	Both Feet lost.	One Eye and One Hand lost.	One Foot and One Toe lost.	One Eye lost.	One Hand lost.	One Foot lost.	Two or More Fingers lost.	Two or More Toes lost.	One Finger and One Toe lost.	One Finger lost.	One Toe lost.
<i>Food and Kindred Products.</i>												
Bakeries,	1	1	1	1	1	1	1	1	1	1	1	1
Candy,	1	1	1	1	1	1	1	1	1	1	1	1
Flour and grain mills,	1	1	1	1	1	1	1	1	1	1	1	1
Slaughter and packing houses,	1	1	1	1	1	1	1	1	1	1	1	1
Other food preparers,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Iron and Steel and their Products.</i>												
Agricultural implements,	1	1	1	1	1	1	1	1	1	1	1	1
Automobile factories,	1	1	1	1	1	1	1	1	1	1	1	1
Foundries and metal working,	1	1	1	1	1	1	1	1	1	1	1	1
Iron and steel mills,	1	1	1	1	1	1	1	1	1	1	1	1
Ship and boat building,	1	1	1	1	1	1	1	1	1	1	1	1
Wagons and carriages,	1	1	1	1	1	1	1	1	1	1	1	1
Other iron and steel workers,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Leather and its Finished Products.</i>												
Leather belt, leather case and pocketbook makers,	1	1	1	1	1	1	1	1	1	1	1	1
Shoes,	1	1	1	1	1	1	1	1	1	1	1	1
Tanneries,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Liquors and Beverages.</i>												
Breweries,	1	1	1	1	1	1	1	1	1	1	1	1
Other liquor and beverage workers,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Lumber and its Remanufacture.</i>												
Box makers (wood),	1	1	1	1	1	1	1	1	1	1	1	1
Furniture,	1	1	1	1	1	1	1	1	1	1	1	1
Plans and organs,	1	1	1	1	1	1	1	1	1	1	1	1
Saw and planing mills,	1	1	1	1	1	1	1	1	1	1	1	1
Other woodworkers,	1	1	1	1	1	1	1	1	1	1	1	1

TABLE XIV. — *Specific Injury Cases, etc. — Concluded.*

INDUSTRIES.	Two Eyes and One Hand lost.	Both Feet lost.	One Eye and One Hand lost.	One Foot and One Toe lost.	One Eye lost.	One Hand lost.	One Foot lost.	Two or More Fingers lost.	Two or more Toes lost.	One Finger and One Toe lost.	One Finger lost.	One Toe lost.
<i>Water Transportation.</i>	1	2	1	1	2	1	1	1	1	2	2	1
<i>Road, Street and Bridge Transportation.</i>												
Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	1	1	1	14	1	2	5	1	1	26	3
Trunk, transfer, cab and hack companies,	1	1	1	1	3	1	1	1	1	1	2	2
Street railways,	1	1	1	1	4	5	2	3	1	1	4	1
Steam railroads,	1	1	1	1	4	5	2	3	1	1	4	1
<i>Express Companies.</i>												
Express companies,	1	1	1	1	1	1	1	1	1	1	4	1
<i>Miscellaneous Transportation.</i>												
Other persons in transportation,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Trade.</i>												
Real estate,	1	1	1	1	6	1	5	7	1	1	30	1
Wholesale and retail trade,	1	1	1	1	1	1	1	1	1	1	1	1
Warehouses and cold-storage plants,	1	1	1	1	1	1	1	1	1	1	1	1
<i>Professional Service.</i>												
Professional service (all kinds),	1	1	1	1	1	1	1	1	1	1	4	1
<i>Domestic and Personal Service.</i>												
Occupations not in industries,	1	1	1	1	1	1	1	2	1	1	12	1
Laundries and laundry work,	1	1	1	1	1	1	1	1	1	1	1	1
Total,	1	2	1	1	104	43	14	115	9	1	613	23

TABLE XV. — *Distribution of Non-fatal Accidents by Degree of Disability, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	Per- manent Total.	Per- manent Partial.	Temp- orary Total.	Minor.
<i>Agriculture, Forestry, Animal Husbandry and Ice Harvesting.</i>				
Agriculture,	-	3	97	19
Forestry,	-	2	94	26
Animal husbandry,	-	1	43	8
Ice harvesting,	-	1	120	27
<i>Extraction of Minerals.</i>				
Mining,	-	-	2	-
Quarrying,	-	9	295	188
<i>Building Trades.</i>				
Building and hand trades,	5	54	4,565	3,820
<i>Chemical and Allied Products.</i>				
Fertilizer makers,	-	-	61	28
Paint makers,	-	1	25	26
Powder, cartridge, fireworks, etc., makers,	-	4	80	55
Soap makers,	-	-	35	23
Other chemical workers,	-	2	210	278
<i>Clay, Glass and Stone Products.</i>				
Brick makers,	-	3	72	17
Potteries,	-	-	16	11
Tile makers,	-	-	5	7
Glass makers, workers,	-	-	41	28
Terra-cotta workers,	-	1	1	1
Lime, cement and gypsum,	-	-	90	20
Marble and stone cutters,	-	4	246	119
<i>Clothing.</i>				
Clothing makers,	-	-	158	126
Corset makers,	-	-	20	99
Hat makers (wool or felt),	-	3	22	18
Shirt, collar and cuff makers,	-	-	29	40
<i>Food and Kindred Products.</i>				
Bakeries,	-	10	298	356
Butter and cheese makers,	-	-	5	2
Candy,	-	8	243	293
Fish curers and packers,	-	-	50	10
Flour and grain mills,	-	1	18	13
Fruit and vegetable canners, picklers, preservers,	-	-	16	12
Slaughter and packing houses,	-	4	528	402
Sugar makers and refiners,	-	-	103	150
Other food preparers,	-	1	122	122
<i>Iron and Steel and their Products.</i>				
Agricultural implements,	-	1	69	112
Automobile factories,	-	18	336	1,763
Car and railroad shops,	-	-	81	76
Foundries and metal working,	2	76	2,286	5,063
Iron and steel mills,	-	7	173	185
Ship and boat building,	-	8	500	65
Wagons and carriages,	-	4	72	48
Other iron and steel workers,	-	61	1,967	1,972
<i>Leather and its Finished Products.</i>				
Harness and saddle makers and repairers,	-	-	45	26
Leather belt, leather case and pocketbook makers,	-	2	57	12
Shoes,	-	52	1,844	2,561
Tanneries,	-	14	523	791
Trunk makers,	-	-	6	9
<i>Liquors and Beverages.</i>				
Breweries,	-	1	314	233
Distilleries,	-	-	5	7
Other liquor and beverage workers,	-	1	65	78
<i>Lumber and its Remanufacture.</i>				
Box makers (wood),	-	14	238	180
Furniture,	-	18	385	343

TABLE XV. — *Distribution of Non-fatal Accidents, etc.* — Continued.

INDUSTRIES.	Per- manent Total.	Per- manent Partial.	Tem- porary Total.	Minor.
<i>Lumber and its Remanufacture—Con.</i>				
Pianos and organs,	-	5	173	208
Saw and planing mills,	-	10	189	102
Other woodworkers,	1	28	619	461
<i>Metals and Metal Products Other than Iron and Steel.</i>				
Brass mills,	-	2	76	97
Clock factories,	-	1	6	8
Copper factories,	-	-	33	6
Gold and silver workers,	-	3	47	42
Jewelry factories,	-	8	118	143
Lead and zinc factories,	-	-	17	8
Tin-plate factories,	-	10	65	79
Watch factories,	-	1	23	14
Brass and copper,	-	-	74	100
Other metal workers,	-	12	246	246
<i>Paper.</i>				
Box makers (paper),	-	2	136	71
Makers of blank books, envelopes, tags, paper bags, etc.,	-	1	87	94
Paper mills,	1	17	904	723
Pulp mills,	-	1	24	18
Other papers,	-	5	108	63
<i>Printing and Bookbinding.</i>				
Printing and publishing establishments,	-	18	439	384
<i>Textiles.</i>				
Carpet mills,	-	4	145	140
Cotton mills,	4	77	4,429	2,704
Dyeing and finishing textiles,	1	5	299	325
Hemp and jute mills,	-	3	174	196
Knitting mills,	-	4	196	157
Linen mills,	-	1	107	99
Print works,	-	6	249	265
Rope and cordage factories,	-	2	59	19
Sail, awning and tent makers,	-	-	10	8
Silk mills,	-	1	64	68
Woolen and worsted mills,	-	47	1,031	1,842
Not specified textile workers,	1	9	314	342
<i>Miscellaneous Industries.</i>				
Broom and brush makers,	-	-	25	84
Button makers,	-	1	54	41
Cigars,	-	1	37	16
Electric light and power companies,	-	5	291	603
Electrical supplies,	-	13	987	601
Gas works,	-	3	410	635
Oil works,	-	-	19	10
Rubber factories,	1	17	960	1,207
Straw workers,	-	-	13	18
Tobacco,	-	-	3	1
Gas and electric companies,	-	5	176	183
Other miscellaneous industries and occupations, Workers in "not specified" manufacturing and mechanical industries,	-	16	520	689
<i>Water Transportation.</i>				
Water transportation,	-	5	854	296
<i>Road, Street and Bridge Transportation.</i>				
Construction and maintenance of streets, roads, sewers, bridges, etc.,	3	54	2,414	1,675
Livery stables,	1	-	143	33
Truck, transfer, cab and hack companies,	-	14	1,192	436
Street railways,	1	11	1,515	1,346
Steam railroads,	3	21	2,361	1,767
<i>Express Companies.</i>				
Express companies,	-	4	472	264
<i>Telegraph and Telephone.</i>				
Telegraph and telephone,	-	-	256	47

TABLE XV. — *Distribution of Non-fatal Accidents, etc.* — Concluded.

INDUSTRIES.	Per- manent Total.	Per- manent Partial.	Tem- porary Total.	Minor.
<i>Miscellaneous Transportation.</i>				
Other persons in transportation, . . .	-	1	48	20
<i>Trade.</i>				
Banking and brokerage,	-	-	15	13
Insurance,	-	-	32	17
Real estate,	-	3	187	134
Wholesale and retail trade,	-	60	4,819	4,493
Warehouses and cold-storage plants,	-	4	200	197
Other persons in trade,	-	-	74	41
Clerical assistants (industry, business or pro- fession not specified),	-	-	-	2
<i>Professional Service.</i>				
Professional service (all kinds),	1	6	222	262
<i>Domestic and Personal Service.</i>				
Occupations not in industries,	-	15	942	639
Laundries and laundry work,	-	3	171	133
Total,	25	938	48,425	45,209

TABLE XVI. — *Conjugal Condition and Dependency in Fatal Accident Cases, July 1, 1914, to June 30, 1915.*

INDUSTRIES.	Single.	Married.	Widower.	Divorced.	Number of Whole Dependents.	Number of Partial Dependents.	Cases in which there were no Dependents.
<i>Agriculture, Forestry and Animal Husbandry.</i>							
Agriculture,	-	3	-	-	3	-	-
Forestry,	-	2	1	-	6	-	1
Animal husbandry,	-	1	-	-	4	-	-
<i>Extraction of Minerals.</i>							
Quarrying,	1	4	1	-	10	1	1
<i>Building Trades.</i>							
Building and hand trades,	22	27	5	-	76	15	12
<i>Chemical and Allied Products.</i>							
Paint makers,	-	1	-	-	5	-	-
Powder, cartridge, fireworks, etc., makers,	-	1	-	-	1	-	-
Other chemical workers,	-	2	-	-	3	-	-
<i>Clay, Glass and Stone Products.</i>							
Tile makers,	-	1	-	-	1	-	-
Marble and stone cutters,	1	1	-	-	3	-	-
<i>Food and Kindred Products.</i>							
Fish curers and packers,	1	-	-	-	-	2	-
Slaughter and packing houses,	1	3	-	-	6	3	-
Sugar makers and refiners,	-	2	-	-	3	-	-
Other food preparers,	2	1	-	-	1	2	1
<i>Iron and Steel and their Products.</i>							
Car and railroad shops,	-	1	-	-	4	-	-
Foundries and metal working,	2	4	1	-	10	1	1
Iron and steel mills,	-	-	1	-	3	-	-
Ship and boat building,	1	4	-	-	12	-	1
Other iron and steel workers,	1	2	-	-	4	-	1
<i>Leather and its Finished Products.</i>							
Leather belt, leather case and pocketbook makers,	-	1	-	-	3	-	-
Shoes,	3	-	-	1	1	2	2
Tanneries,	1	2	1	-	2	2	-
<i>Liquors and Beverages.</i>							
Breweries,	-	2	-	-	8	-	-
<i>Lumber and its Remanufacture.</i>							
Box makers (wood),	1	1	-	-	1	2	-
Furniture,	-	1	-	-	5	-	-
Pianos and organs,	-	1	-	-	6	-	-
Saw and planing mills,	-	2	-	-	1	-	1
Other woodworkers,	-	1	-	-	5	-	-
<i>Metals and Metal Products Other than Iron and Steel.</i>							
Other metal workers,	1	-	-	-	-	2	-
<i>Paper.</i>							
Paper mills,	1	4	-	1	13	-	1
Other papers,	-	1	-	-	4	-	-
<i>Printing and Bookbinding.</i>							
Printing and publishing establishments,	2	-	-	-	-	1	1
<i>Textiles.</i>							
Cotton mills,	-	6	1	-	24	-	1
Dyeing and finishing textiles,	-	3	-	-	5	-	-

TABLE XVI. — *Conjugal Condition and Dependency, etc.* — Concluded.

INDUSTRIES.	Single.	Married.	Widower.	Divorced.	Number of Whole Dependents.	Number of Partial Dependents.	Cases in which there were no Dependents.
<i>Textiles — Con.</i>							
Rope and cordage factories,	-	1	-	-	3	-	-
Woolen and worsted mills,	2	9	-	-	30	-	2
Not specified textile workers,	-	1	-	-	2	-	-
<i>Miscellaneous Industries.</i>							
Electric light and power companies,	2	4	-	-	9	2	1
Electrical supplies,	1	-	-	-	-	-	1
Gas works,	1	1	1	-	5	-	1
Rubber factories,	-	1	-	-	1	-	-
Straw workers,	-	1	-	-	5	-	-
Gas and electric companies,	-	3	-	-	8	-	-
Other miscellaneous industries and occupations,	1	-	-	-	-	2	-
Workers in "not specified" manufacturing and mechanical industries,	4	2	-	-	2	7	1
<i>Water Transportation.</i>							
Water transportation,	2	2	-	-	15	1	1
<i>Road, Street and Bridge Transportation.</i>							
Construction and maintenance of streets, roads, sewers, bridges, etc.,	13	28	3	-	84	13	6
Livery stables,	1	3	-	-	4	-	1
Truck, transfer, cab and hack companies,	5	10	-	-	31	6	1
Street railways,	4	3	2	-	11	3	4
Steam railroads,	16	39	1	-	91	10	11
<i>Express Companies.</i>							
Express companies,	1	1	-	-	3	-	1
<i>Telegraph and Telephone.</i>							
Telegraph and telephone,	1	1	-	-	3	-	1
<i>Miscellaneous Transportation.</i>							
Other persons in transportation,	-	1	-	-	2	-	-
<i>Trade.</i>							
Banking and brokerage,	-	-	-	1	-	-	1
Insurance,	-	1	-	-	4	-	-
Real estate,	2	1	-	-	3	-	1
Wholesale and retail trade,	13	23	2	-	72	13	5
Warehouses and cold-storage plants,	-	2	-	-	1	-	1
Other persons in trade,	1	-	-	-	-	-	1
<i>Professional Service.</i>							
Professional service (all kinds),	2	1	-	-	3	2	1
<i>Domestic and Personal Service.</i>							
Occupations not in industries,	4	4	1	-	11	2	3
Laundries and laundry work,	-	1	-	-	1	-	-
Total,	117	229	21	3	637	94	69

TABLE XVII. — *Statistical Table showing Transactions by All Insurance Companies during Year July 1, 1914, to June 30, 1915, inclusive.*

1. Number of employees receiving medical services only,	48,796
2. Number of employees receiving compensation only,	2,372
3. Number of employees receiving both medical services and compensation,	14,018
4. Number of cases reported requiring neither payment of compensation nor medical expense,	24,597
5. Number of fatal injury cases reported in which dependents totally dependent for support upon the employee were left, under section 6, Part II. of the act,	174
6. Number of fatal injury cases in which dependents partially dependent were left,	38
7. Number of fatal injury cases in which no dependents were left,	40
8. Total compensation paid all injured employees and dependents of all fatally injured employees,	\$926,957 17
9. Payments covering medical and hospital services and medicines, under section 5, Part II. of the act,	\$446,273 65
10. Estimated liability on account of compensation due injured employees and their dependents, covering the amount of deferred payments for losses incurred and the estimated cost of undetermined losses,	\$1,323,721 83
11. Estimated liability on account of medical services rendered, but not yet paid,	\$141,496 34
12. Compensation paid in fatal injury cases in which dependents totally dependent survived,	\$97,115 84
13. Estimated liability on account of deferred payments under item 12,	\$561,777 99
14. Compensation paid in fatal injury cases in which dependents partially dependent survived,	\$14,100 60
15. Estimated liability on account of deferred payments under item 14,	\$55,442 23
16. Payments covering fatal injury cases where no dependents survived, under section 8, Part II. of the act,	\$5,022 01
17. Estimated liability on account of deferred payments under section 8, Part II. of the act,	\$15,034 90

XVIII. — Study showing Condition of Dependents in Certain Uninsured Fatal Cases, July 1, 1914, to June 30, 1915.

Re- port Num- ber.	Industries.	Occupation.	Age.	Wage.	Amount Payable under Act in Analogous Cases.	Dependents.	Settlement.	Financial Condition.
1900	Florist,	Teamster,	63	\$14 00	\$2,100 00	Widow,	Employer paid ex- penses of last sick- ness and burial; also \$5 per week to widow.	Children are of age and self-support- ing.
3143	Steam railroad,	Yard brakeman,	47	16 85	2,537 50	Widow and three chil- dren (under 18), two children over 18.	\$500.	Youngest child in school. Four chil- dren are working for low wages. Fi- nancial condition is not good.
3680	Street railway,	Laborer,	35	12 25	200 00	No dependents,	Suit pending,	Employee may have parents in Rus- sia, probably not dependent.
5000	Painting,	Painter,	45	19 50	2,925 00	Widow and three chil- dren.	No settlement,	Widow receives mother's pension from State. Family is in poor cir- cumstances.
5587	Steam railroad,	Carpenter,	52	17 40	1,805 00	Sister and two nieces,	\$1,700.	No further information available.
7253	Steam railroad,	Fireman,	37	20 00	3,000 00	Widow and one child,	\$1,500.	After paying burial expenses, law- yer's fee and bills for living ex- penses, etc., \$300 remained. Widow works to support herself and small child.
12151	Steam railroad,	Freight brakeman,	27	16 65	200 00	No dependents,	Suit pending,	No further information available.
15894	Real estate,	Janitor,	55	14 00	2,100 00	Widow,	Satisfactory settle- ment effected.	Widow is supported by son.
16456	Steam railroad,	Fireman,	40	12 95	200 00	No dependents,	\$235.	Employee was unmarried and left no dependents. Settlement covered cost of burial and headstone.
23361	Steam railroad,	Sectionman,	43	9 60	1,440 00	Widow and four chil- dren.	No settlement,	Family is in Europe and in destitute circumstances. Brother of em- ployee in this country unable to help family.

TABLE XVIII. — Study showing Condition of Dependents in Certain Uninsured Fatal Cases — Concluded.

Re- port Num- ber.	Industry.	Occupation.	Age.	Wage.	Amount Payable under Act in Analogous Cases.	Dependents.	Settlement.	Financial Condition.
24320	Steam railroad.	Section laborer.	50	\$10 20	\$1,530 00	Widow.	\$3,900.	Employee left property valued at \$1,000 approximately.
27660	Steam railroad.	Freight conductor.	55	28 80	4,000 00	Widow.	\$500.	Widow has no property and is dependent upon her own efforts.
28078	Trucking.	Teamster.	29	10 50	3,500 00	Widow and two children.	Expenses of last sickness and burial and "gift" of \$100.	Dependents are poorly situated financially.
29092	Steam railroad.	Brakeman.	30	11 35	1,892 50	Widowed mother.	No settlement.	Employee was main support of mother, who is about 60 years of age and is left in poor circumstances.
30208	Steam railroad.	Flagman.	26	18 25	4,000 00	Widow.	\$515.	No further information available.
30356	Steam railroad.	Yard conductor.	40	16 80	4,000 00	Widow.	\$2,454 30.	No further information available.
31048	Steam railroad.	Brakeman.	23	13 75	200 00	No dependents.	\$350.	Father in ill health; one member of family unable to work. Poor circumstances.
33181	Steam railroad.	Brakeman.	28	16 00	4,000 00	Widow and two children (oldest 3 years).	\$750.	Widow earns \$3 per week and board for herself and youngest child. Oldest child lives with his grandmother.
37146	Steam railroad.	Signal maintainer.	27	19 95	200 00	No dependents.	No settlement.	Mother is dependent upon children for support.
37168	Steam railroad.	Engine house man.	47	11 20	3,725 00	Widow and three children (one over 18).	\$1,000.	Two oldest children are working. Family is not in very good circumstances.
37250	Steamship company.	Freight handler.	45	7 50	2,500 00	Widow and six children (oldest 16 years).	Suit pending.	Family is in Portugal and in poor circumstances. Widow has a small amount of property which is heavily mortgaged.
43995	Steam railroad.	Brakeman.	28	25 00	200 00	No dependents.	\$900.	Family is not in good circumstances.
44039	Steam railroad.	Switch tender.	45	15 05	4,000 00	Widow and one child (8 years old).	\$1,000.	Widow is a frail woman and supports herself and child by working for her neighbors.

45430	Steam railroad, .	Car inspector, .	58	21 40	4,000 00	Widow and five chil- dren.	\$1,000, . . .	No further information available.
45994	Steam railroad, .	Section man, .	63	8 65	2,885 00	Widow, . . .	\$425, . . .	No further information available.
49801	Steam railroad, .	Yard brakeman, .	35	21 00	4,000 00	Widow and two chil- dren.	\$1,225, . . .	No further information available.
55813	Steam railroad, .	Inspector and repair- man.	39	16 40	4,000 00	Widow and one child,	\$2,700, . . .	No further information available.
57687	Steam railroad, .	Freight conductor, .	35	27 00	4,000 00	Widow and three chil- dren.	\$2,013, . . .	No further information available.
58773	Steam railroad, .	Brakeman, . . .	36	15 00	4,000 00	Widow, . . .	No settlement,	Has no resources and is waiting for a settlement from employer.
59047	Steam railroad, .	Crossing man, . .	70	9 80	200 00	None, . . .	\$1,200, . . .	Children of employee were of age and in comfortable circumstances. Em- ployee left an estate amounting to several thousand dollars.
60453	Steam railroad, .	Engineer, . . .	38	30 00	4,000 00	Widow, . . .	Case in hands of law- yer.	No further information available.
70965	Steam railroad, .	Yard brakeman, .	27	20 15	4,000 00	Widow and one child,	Suit pending, . .	Widow is not able to work and has no income.
78326	Steam railroad, .	Brakeman, . . .	28	18 00	4,000 00	Widow, . . .	\$500, . . .	No further information available.
78362	Steam railroad, .	Freight conductor, .	38	27 00	4,000 00	Widow, . . .	\$2,000 awarded in United States court. Taken to higher court by defend- ant. Unsettled.	
87467	Steam railroad, .	Pattern maker, . .	46	16 50	4,000 00	Widow, . . .	\$400, . . .	Widow is working to support herself.
17908	Street railway, .	Conductor, . . .	28	17 15	200 00	None, . . .	Suit pending, . .	Suit instituted by mother, who was in no way dependent. Younger sister of employee may have been partially dependent; is in poor health.
88105	Building trades, .	Laborer, . . .	35	10 00	3,330 00	Widow and three chil- dren (oldest 7 years),	No settlement, .	Widow is incapable of supporting her- self and children. Family is in great need.
92377	Steam railroad, .	Signal man, . . .	31	12 60	2,100 00	Mother (a widow), .	\$400, . . .	Mother is now dependent upon one son.
96618	Steam railroad, .	Laborer, . . .	40	13 80	4,000 00	Widow and three chil- dren.	No settlement yet. Offer of \$350 re- jected.	No further information available.
70905	Steam railroad, .	Conductor, . . .	54	28 00	4,000 00	Widow, . . .	\$300, . . .	Widow is supported by children.
36624	Steam railroad, .	Night watchman, .	60	14 35	4,000 00	Widow, . . .	Offer of \$200 rejected. Suit pending.	Widow is being supported by other members of the family.

TABLE XIX. — *Personal Injuries by Diseases of Occupation, July 1, 1914, to June 30, 1915.*

CLASSIFICATION.	Industries.	CASES.			NON-FATAL CASES.			
		Non-fatal.	Total.	Fatal.	Total.	Days Lost.	Wages Lost.	Total.
<i>Harmful Substances (causing Constitutional Disturbances).</i>								
Arsenic.	Forestry. Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	-	-	-	53	\$149	-
		1	2	-	-	30	62	\$311
Dusts.	Other chemical workers, Foundries and metal working, Other iron and steel workers, Cotton mills, Workers in "not specified" manufacturing and mechanical industries, Construction and maintenance of streets, roads, sewers, bridges, etc.,	1	-	-	-	365	-	-
		1	-	-	-	26	46	-
		1	-	-	-	5	4	-
		1	-	-	-	-	-	-
		1	-	-	-	-	-	-
		1	6	-	-	119	515	1,254
<i>Gases, vapors and fumes.</i>	Fertilizer makers, Other chemical workers, Automobile factories, Foundries and metal working, Other iron and steel workers, Shoes, Printing and publishing establishments, Cotton mills, Gas works, Rubber factories, Workers in "not specified" manufacturing and mechanical industries, Truck, transfer, cab and hack companies, etc., Laundries and laundry work,	1	-	-	-	9	14	-
		2	-	1	-	4	6	-
		4	-	-	-	53	122	-
		1	-	-	-	212	773	-
		1	-	-	-	3	12	-
		1	-	-	-	17	24	-
		2	-	-	-	1	2	-
		1	-	-	-	6	12	-
		4	-	-	-	9	15	-
		1	-	-	-	37	127	-
		1	-	-	-	22	57	-
		1	24	-	1	6	13	1,302
<i>Hides (anthrax).</i>	Tanners, Not specified textile workers, Water transportation, Other persons in trade,	3	-	-	-	23	66	-
		1	-	-	-	183	73	-
		1	-	-	-	61	113	-
		3	8	-	-	207	441	773

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Lime,	Other iron and steel workers,	5	7	-	-	91	-	190	205
Oil,	Tanneries,	2	7	-	-	7	98	15	-
	Automobile factories,	2	-	-	-	1	-	2	-
	Foundries and metal working,	2	-	-	-	28	-	52	-
	Other iron and steel workers,	2	-	-	-	6	-	13	-
	Cotton mills,	1	-	-	-	41	-	-	-
	Electrical supplies,	2	-	-	-	-	-	78	-
	Other miscellaneous industries and occupations,	2	-	-	-	9	-	6	-
Paint,	Street railways,	1	18	-	-	31	116	67	218
	Foundries and metal working,	1	-	-	-	8	-	12	-
	Electric light and power companies,	1	2	-	-	26	34	52	64
Poisonous vines, trees, shrubs, etc.,	Forestry,	4	-	-	-	97	-	124	-
	Building and hand trades,	6	-	-	-	87	-	150	-
	Cotton mills,	5	-	-	-	81	-	124	-
	Dyeing and finishing textiles,	1	-	-	-	2	-	3	-
	Construction and maintenance of streets, roads, sewers, bridges, etc.,	16	-	-	-	675	-	1,260	-
	Truck, transfer, cab and hack companies, etc.,	1	-	-	-	-	-	-	-
	Steam railroads,	2	-	-	-	43	-	72	-
	Real estate,	1	-	-	-	43	-	65	-
	Wholesale and retail trade,	1	-	-	-	18	-	23	-
	Professional service,	1	-	-	-	25	-	60	-
	Occupations not in industries,	1	30	-	-	7	1,106	15	-
Raw wool,	Tanneries,	8	-	-	-	19	-	31	2,043
	Woolen and worsted mills,	2	10	-	-	23	78	35	91
	Foundries and metal working,	1	-	-	-	55	-	50	-
Washing and cleaning fluids,	Other iron and steel workers,	1	-	-	-	-	-	-	-
	Printing and publishing establishments,	1	-	-	-	23	-	47	-
	Woolen and worsted mills,	4	-	-	-	28	-	13	-
	Steam railroads,	1	-	-	-	23	-	43	-
	Wholesale and retail trade,	2	-	-	-	119	-	2	-
	Occupations not in industries,	3	13	-	-	11	216	11	285

TABLE XIX. — *Personal Injuries by Diseases of Occupation, etc.* — Continued.

CLASSIFICATION.	Industries.	CASES.			NON-FATAL CASES.		
		Non-fatal.	Total.	Fatal.	Total.	Days Lost.	Wages Lost.
<i>Irritant Fluids and Substances, etc. — Con.</i> Local irritation from constant vibration, blows, pressure, etc.	Building and hand trades,	2	-	-	-	104	\$120
	Brick makers,	4	-	-	-	42	63
	Lime, cement and gypsum,	1	-	-	-	20	23
	Marble and stone cutters,	2	-	-	-	17	41
	Candy,	4	-	-	-	10	8
	Slaughter and packing houses,	1	-	-	-	8	12
	Other food preparers,	2	-	-	-	54	95
	Automobiles,	1	-	-	-	-	-
	Foundries and metal working,	8	-	-	-	77	111
	Ship and boat building,	1	-	-	-	5	8
	Other iron and steel workers,	6	-	-	-	91	198
	Shoes,	31	-	-	-	547	948
	Tanneries,	6	-	-	-	54	76
	Other liquor and beverage workers,	1	-	-	-	17	49
	Box makers (wood),	1	-	-	-	3	8
	Furniture,	1	-	-	-	4	7
	Other woodworkers,	1	-	-	-	96	291
	Other metal workers,	1	-	-	-	1	1
	Box makers (paper),	5	-	-	-	135	202
	Paper mills,	3	-	-	-	26	45
	Other papers,	1	-	-	-	253	353
	Cotton mills,	3	-	-	-	16	19
	Dyeing and finishing textiles,	1	-	-	-	-	-
	Knitting mills,	1	-	-	-	5	12
	Print works,	3	-	-	-	18	13
	Not specified textile workers,	3	-	-	-	223	339
	Electrical supplies,	3	-	-	-	-	-
	Gas works,	7	-	-	-	68	67
	Rubber factories,	1	-	-	-	11	12
	Other miscellaneous industries and occupations,	2	-	-	-	29	84
	Workers in "not specified" manufacturing and mechanical industries,						

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TABLE XIX. — *Personal Injuries by Diseases of Occupation, etc.* — Concluded.

CLASSIFICATION.	Industries.	CASES.			NON-FATAL CASES.			
		Non-fatal.	Total.	Fatal.	Total.	Days Lost.	Wages Lost.	Total.
<i>Irritant Fluids and Substances, etc.</i> — Con. Miscellaneous — Con.	Electrical supplies,	8	-	-	-	125	\$223	-
	Gas works,	2	-	-	-	24	35	-
	Rubber factories,	2	-	-	-	13	17	-
	Tobacco,	1	-	-	-	2	6	-
	Other miscellaneous industries and occupations,	2	-	-	-	15	20	-
	Water transportation,	1	-	-	-	57	114	-
	Construction and maintenance of streets, roads, sewers, bridges, etc.,	2	-	-	-	259	518	-
	Street railways,	4	-	-	-	3	5	-
	Telegraph and telephone,	1	-	-	-	12	31	-
	Railroads,	1	-	-	-	-	-	-
	Wholesale and retail trade,	8	-	-	-	29	60	-
	Laundries and laundry work,	2	154	-	-	37	48	\$5,720
	Totals,	-	699	-	3	-	23,251	\$50,318



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